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ABSTRACT

Based on the papers and discussions of the 1977 Annual Conference of the International Institute of Communications, this publication provides a survey of major issues in communication. It deals with a variety of topics, including issues facing the 1979 World Administrative Radio Conference; news values and social priorities; the media in developing countries; international broadcasting; communications policies and structures in various countries; broadcasting systems in Britain, the Arab states, and Sweden; information services and telecommunications; and new communication services--such as citizens-band radio--that promise wider individual access to media. (GW)

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Issues in Communication

No 1 **1977**

International Institute of Communications

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INTRODUCTION

The *International Institute of Communications* provides an interdisciplinary forum for those working in the field of communications around the world, be they policy makers, managers, journalists, industrialists, engineers, social researchers or from any other concerned area. It is an independent, non-governmental, non-profit making institution concerned with the present uses and future developments of communications throughout the world. Its activities spring from the conviction that there is an essential need for greater analysis of the cultural, social, economic and legal aspects of communications.

The IIC holds local, regional and international seminars and meetings. It undertakes research of its own and on contract to members and outside organisations. It possesses at its London headquarters a growing library of material, much of it unpublished, including a special collection on satellite communications from their beginnings. Its journal 'InterMedia' provides news and comment on developments in communications issues around the world.

This book, *Issues in Communications,* is the first of a new series to be published annually by the IIC. It is based on the papers and discussions of the IIC's Annual Conference and provides a survey of major issues in communication. Many of the topics are of continuing interest to the IIC and are being dealt with concurrently in other IIC meetings, projects and publications.

This first book in the series follows the IIC's 1977 Annual Conference in Washington, DC, USA.

1. THE 1979 WORLD ADMINISTRATIVE RADIO CONFERENCE

The framework for all forms of communication that use radio frequencies will be fixed at a forthcoming World Administrative Radio Conference. The Conference is organised by the International Telecommunication Union and will be held in Geneva in 1979. The IIC has given the overall policy issues and implications of the six-week Conference a high priority in its programme of activities.

At the IIC's Annual Conference in Washington a plenary session on the 1979 WARC generated a great deal of interest. It was chaired by Laurent Picard, former President, Canadian Broadcasting Corporation, with written and oral presentations by Kalmann Schaefer (USA), Ifram Ullah (Pakistan) Jean Voge (France) and Edward Ploman (IIC). Several Commissioners of the US Federal Communications Commission (FCC) were present; as were other policy-makers involved in the preparations for the WARC. Among the speakers in discussion were Leonard Marks, who has long been prominent in US delegations to international meetings in the communications field; Lambert Philadelphia, General Manager, Guyana Telecommunications Corporation; Gabriel Warren, Director General, International Telecommunications, Department of Communications, Canada; and Frank Norwood, Executive Director, Joint Council on Educational Telecommunications, USA.

Jean Voge, Ingénieur General des Télécommunications, PTT, France, stressed the need at the 1979 WARC to take fully into account the new social context of the 1980s and of years beyond. Kalmann Schaeffer, Special Adviser to the Commissioners on International Affairs, FCC, USA, discussed, from a US viewpoint, the differences between two main approaches to the WARC – broadly speaking the one being proposed by the USA and some other countries, and the other put forward by some developing countries. Finally (page 5), Ifram Ullah, Director of Engineering, Pakistan TV, speaking from the viewpoint of a developing country, proposes a planned approach, and uses as an example the case of the high frequency band.

SOCIAL PRIORITIES AT THE 1979 WARC

Jean Voge

The events and issues of the 1979 WARC will be very different from those that faced the preceding conferences in 1947 and 1959. Then, it was possible to satisfy almost all needs, all demands, for spectrum use by a detailed procedure of co-ordination, regulation and planning that was based essentially, if not solely, on technical criteria. Today, that kind of exclusively technical thinking is no longer possible. Economic, social and political factors must be considered alongside the technical when fixing priorities. And we must not forget the subtle principle of equity, between countries, both developed and developing; between services; between users; and ultimately between individuals.

It is vital to integrate all the relevant parameters. We must generate innovation in the *management* of telecommunications – with the most forward-looking, dynamic, methods currently available – in the same way as scientists and engineers have generated innovation in the *technical* matter of these new technologies.

My second point concerns the amateur bands, 'citizens' bands and communication between individuals: generally speaking, the parts of the spectrum where communications are allowed to be relatively free. The experiences of self-regulation established by the users themselves seem to lead, in certain cases, to a much more efficient utilisation of the spectrum than that set by the complex and more formal regulations. It is a rather surprising fact that in many countries only the transport of information – in contrast to the movement of people and goods -- is regarded as, and organised as, a public service. The sight of people managing to drive their cars in crowded traffic with a high level of 'interference' gives one confidence in their ability to communicate in electronic terms with an equally high level of interference. This should favour an extension, rather than a reduction, in the number of bands allocated to this kind of public service.

I want finally to stress the necessity for those who will take the decisions at the 1979 Conference to take fully into account the evolution of social structures. Today's most sophisticated telecommunication services are the fixed and mobile point-to-point service, and the broadcasting services between one transmitter and numerous receivers. We urgently need to develop a new mode of community interactive services, connecting members of small groups and enabling them to communicate as if they were at a conference or some other traditional meeting-place.

There is a strong consensus among sociologists that the evolution of advanced societies, like the evolution

of biological organisms, must go from centralised structures to those that are more and more decentralised and cellular. The definition by the ITU of community services, with space reserved in the frequency spectrum and protection against interference, would certainly play a fundamental role in the evolution towards this new, decentralised society.

US PREPARATIONS FOR THE WARC

Kalmann Schaeffer

The importance of telecommunications to society has been accelerating with the development of technologies such as solid state electronics, communications satellites, large capacity transmission media and computers. Communications satellites have already revolutionised the transmission of information over long distances, and the growing convergence of communications and computers is beginning to affect the way we organise our economic activities. These technological developments have brought the USA and indeed the world to the point in which the collection, transmission, processing and storage of information have become unprecedentedly cheap.

There are those who assert that we have just begun to enter an Information Epoch, a post-industrial stage of development in which our economically and socially productive activities revolve around the creation and distribution of data and information.

This phenomenon is not limited to any single country or group of companies. It is international in scope. International telecommunications is a dynamic field with a growth rate of at least 20% a year. It has become the backbone of international commerce and trade, and a vital tool in the economic interdependence which is becoming a fact of life for the world community. In a cost and energy conscious age, telecommunications offfers one of the most promising tools for making more efficient a wide range of economic and social activities. Thus, the ability to communicate may become a resource more precious and more central to our respective economies than oil. The decisions made at the 1979 WARC will have a profound impact on the extent to which we can take advantage of the forthcoming 'communications revolution'.

There has been an increasing perception of, and reference to, the electromagnetic spectrum as a limited resource. One hears it said that the resource of which our planet is going to run out of first is not oil, not gas nor minerals, but the electromagnetic spectrum. Consequently, many countries are likely to assume a posture at the 1979 WARC of claiming their 'rightful share' of this resource. This, in my view, could have very disruptive and serious economic consequences for all nations. While the analogy of the spectrum and other natural resources is valid to a point, there is a very significant difference which one frequently overlooks. Unlike other natural resources, the electromagnetic spectrum does not diminish in supply. Its supply is constant at a given level of technology and, in fact, technological advances have increased the spectrum 'supply' over the last 50 years. What is needed, then, is a more efficient way of using the spectrum, and one which is positively correlated with the demand for it. Continued advances in technology hold great promise in this regard.

Essentially, there are two ways of attacking the spectrum problem at the World Administrative Radio Conference in 1979; the restrictive and expansive. The *restrictive* approach may have a powerful appeal to some administrations that wish to insure their 'rightful share' of the spectrum regardless of present or potential demand. This course is to take all possible steps at the Conference to reduce the number of users, to introduce restrictive ITU regulations for user operations, minimizing transmission time, and to demand maximum sharing of channels despite the implications of a degradation of service to individual users. By these means, the problem of congestion would certainly be ameliorated, but at a huge price. The development of more advanced and efficient telecommunications technology would tend to be chocked off because the cost for communicating would be made so expensive and economically unattractive. Think of what this would do to international commerce and trade. The potential benefits from communications between the various cultures and people of the world might never materialise.

This restrictive approach would be a recipe for economic disaster, putting us further on the road to some of the more cataclysmic scenarios for the future. If telecommunications is to fulfil its role by potentially substituting for materials and energy in the changing world economy of tomorrow, then the spectrum must be conveniently and freely available to potential users. The spectrum congestion problem must therefore be tackled primarily as a technical rather than an administrative issue. It should not be viewed as a division between the 'have' and 'have-nots'.

The other course is the *expansive* approach. The aim of the 1979 WARC should be to make

communications channels available to the maximum number of users and to give each user the highest possible quality of service. Under this approach, the goals of the Conference should include: (a) preservation of sufficient frequency allocations and suitable conditions of use for existing systems and services; (b) making only those changes to the ITU Radio Regulations necessary to permit new systems to develop; and (c) retaining enough flexibility in the Regulations so that systems whose characteristics and future course of development are as yet unkown can be accommodated through the year 2000.

To accomplish these goals, each administration, in preparing for the Conference, initially ought to take account of the broad socio-economic implications described earlier and establish rational criteria for the allocation of spectrum. There are some users who could meet their needs in other ways. There are other users who simply cannot do so. For example, there is no way of trailing a cable from an aircraft. There are some natural priorities that one has to look at. This kind of preparatory work needs to take place if the 1979 WARC decisions are going to create the highest possible technical standards for all our future communications.

The USA realises that in preparing for the WARC it must take into account the anticipated needs of others, particularly developing countries, in addition to our own. There is a genuine desire and realisation that an equitable solution to the spectrum congestion problem must be found on a global basis. Thus, US teams of experts are travelling around the world to consult with other administrations about their needs, and to discuss ours. Based upon what we learn from other nations and from the comments and views expressed at home, US proposals for the WARC will be structured to meet or accommodate the indicated world trend as well as United States' needs to the maximum extent possible.

I am convinced that, with adequate technical preparation, a clear statement of objectives and international goodwill, the 1979 WARC can succeed in resolving the issues before it – and that it can do so in a manner which will insure that all countries 'have equitable access' to the electromagnetic spectrum as stipulated in the language of the International Telecommunication Convention.

BROADCASTING ON THE HIGH FREQUENCIES: THE NEED FOR PLANNING

Iftam Ullah

The entire picture of the telecommunication scene has changed drastically since 1959. At that time most countries did not have television services. Microwave frequencies were seldom used. Satellite communication was only a scientific excitement. Cable technology had just started. The power of broadcasting transmitters was limited to 200 kilowatts.

In the past 20 years, television, including colour television has expanded rapidly. Microwave communication has become the backbone of heavy traffic circuits. Satellite communication has matured. Cable technology has advanced into the techniques of fibre optics with practically unlimited channel capacity. Multi-mega watt broadcast transmitters, with highly directional antennas, have become standard.

The 1979 WARC is very important because it will not only take care of the changes of the last 20 years but it will also have to anticipate developments in the field of telecommunications till the close of the present century. It is very important that all participants are very clear about their own objectives and keep in view the entire 40 years, so as to avoid supporting positions, perhaps unintentionally, which may exclude desirable national objectives before the entire range of possibilities is fully visible.

The frequency spectrum, particularly the high frequency bands, have in the past been apportioned to users on a 'first come, first served' basis. The result has been inequitable. The present allocation of the high frequency bands amongst the various services has hardly changed since the ITU's Atlantic City Conference in 1947. The current proportions to transmitters are fixed, 48.9%; mobile 36.2%; broadcasting 9.5%; amateur 4.0%; and other radio 1.4%.

The theoretical capacity of the shortwave broadcast bands for 24 hours' usage of the available 462 channels is approximately 11,088 channel hours (24 x 462). This theoretical capacity cannot be fully utilised, however. Listening hours are not spread equally over the 24 hours' period and propagation conditions often (especially at night) make it impossible to use all 462 channels. These factors limit the capacity to between 6,000 and 9,000 channel hours.

An attempt during the World Administrative Radio Conference of 1959 to introduce a co-ordinated plan for the fixed allocation of frequencies proved unsuccessful, for the simple reason that even at that

time the total requirements were double the number of available channel hours

Most countries use shortwave frequencies to spread their cultural and political ideas to the rest of the World. The result has been an unprecedented growth in the number of transmitters. In view of the tremendous expansion that has taken place in the number of transmitters broadcasting on high frequencies, and within the very limited confines of the spectrum allocated for this purpose, only about 25% of the signals actually transmitted can be received with good reception. The mad race for more power and the use of more and more alternate channels has confounded the confusion.

Broadcasting's need for spectrum, in fact, has steadily increased until in 1976 it was 26,000 channel hours. This includes 2,300 channel hours which were not registered with the ITU's International Frequency Registration Board, and 3,600 channel hours which spilled outside the confines of the broadcast bands. Studies conducted by various organisations have indicated that the shortwave broadcast bands are at present overloaded by a factor of 3 to 4.

The growth of the listening end of broadcasting is equally significant. Out of the total of approximately one billion radio receivers in the world today, the shortwave receivers are estimated to make up approximately 200 million. This growth is not compatible with efficient spectrum utilisation. Interference-free reception is necessary to provide a satisfactory service to listeners with inexpensive portable receivers.

Another important factor is that the services that have the lion's share of the spectrum have increasingly turned to using the new sophisticated technologies of broadband submarine cables, microwave circuits and satellites. The expansion of the shortwave broadcast bands at the expense of the fixed services is necessary and will in fact, hardly affect those services. Evidence for this lies in the fact that the usage of frequencies outside the allocated bands by shortwave broadcasting stations has been accepted without complaint by most telecommunication administrations. The shortwave bands really are bursting at the seams.

In 1975, the IFRB examined fixed service station assignments and sent the results to telecommunication administrations inviting comments. A study of replies from 27 Administrations revealed that more than 65% of the frequency assignments to fixed service stations had either been cancelled completely or were being used strictly as an emergency back-up arrangement for other means of communications (IFRB Circular No. 353 dated May 26, 1976).

In view of this extremely bad situation in the field of high frequency broadcasting, primarily due to congestion, it is obvious that the 1979 WARC must consider a more equitable distribution of the spectrum amongst the various services (given the present situation of the needs of broadcasting and the present usage of high frequencies by the fixed services).

If it is possible to expand the high frequency bands by a factor of at least two, there is a very real possibility of preparing a plan for shortwave broadcasting. Although the shortwave bands are now congested by a factor of 3 to 4, the situation would ease considerably if and when usage of the spectrum is more strictly planned. By planning frequency usages and ensuring good reception for everyone, countries will find it no longer necessary for them to use half a dozen channels for the same programme, as they are now doing in compulsive competition. This decrease in requirements will help in turn to make a very good plan. The 1979 WARC may propose the ITU hold further conferences to make a broadcasting plan for these high frequencies in order to fully exploit the newly-expanded bands.

THE WARC AND THE IIC

The IIC has planned a programme of activities related to the preparations for the 1979 WARC, the Conference itself, and the general debate about the future of the ITU. As Jean Voge said in Washington, "the IIC provides a unique forum for the exchange of views between specialists of different fields". The Institute's programme reflects this theme of an inter-disciplinary approach to the policy issues.

A basic component of this programme is the IIC's Briefing Paper for the WARC, *Telecommunications: National Policy and International Agreement*, which explores the technical and social issues of telecommunications facing societies in the next few decades. The Institute is also holding a series of regional seminars. The first seminar was held in Singapore in June at the headquarters of the co-organisers the Asian Mass Communication Information Centre.

It was notable that a number of views were common to both the Asian seminar and the Washington

Conference. There was a general agreement that each country should make full and detailed preparations for the WARC, and that these preparations should take account of national policies on general social issues (eg, education, regionalism). Participants at both meetings stressed the importance of involving the users of the various radio services in their preparations.

Regional co-operation was also seen as desirable at both meetings. The Asian seminar discussed the co-ordination of frequency allocation between Malaysia, Phillippines and Singapore and in Washington Leonard Marks proposed several schemes of collaboration including the possibility of several countries sharing a satellite

The overall feeling, two years before the WARC itself, was of a shared recognition of the importance of the WARC, and the need to make the most of the opportunity to clarify the technical and social issues and to make more equitable the regulations that are involved.

2. NEWS VALUES AND SOCIAL PRIORITIES

The gathering, organisation and dissemination of news is a matter of crucial interest both to developed and developing countries and to the relationship between them. A major theme in the discussions in UNESCO, the various non-aligned meetings, and elsewhere is the relationship between news values and social priorities. Does the press (publishers, editors, writers, cameramen) have a duty a privilege, or even a right, to investigate and criticise its own – or any other – government and society? Or should the press work with government towards national or local policy objectives? In Washington, Professor Robert McKenzie, London School of Economics, chaired a discussion between two Western journalists and two journalists from developing countries (Egypt and Kenya). The two Westerners were Marvin Kalb, CBS News, and Gerald Long, Managing Director, Reuters. The speakers from the Third World were Yehia Aboubakr, Director, Information Department, League of Arab States, and James Kangwana, Director of Broadcasting, Voice of Kenya. The comments by Yehia Aboubakr are taken from his prepared statement. The others are transcripts of the author's remarks.

FREE TO BE IRRESPONSIBLE

Marvin Kalb

My theme is rather outlandish. It is that newspaper, radio and television reporters should be permitted to be thoroughly irresponsible without any kind of reference to social priorities. If that sounds too extreme, may I add that I would also encourage the press to be responsible. But since I cannot define what is responsible and what is irresponsible in the pursuit of a news story (although I assume that most press people are broadly responsible, by anyone's definition) I have opted for the plea that the press be permitted to be irresponsible.

The United States has been a battleground for almost 15 years. As a part of that battle, the relationship between the press and the government has been lively and active.

The streets of America have been bloodied; its cities in some cases have been levelled; its universities on occasion have come to resemble military encampments; its deliberative bodies, the Legislature and Congress, have been seized by extraordinary problems.

Consider for a moment the last 15 years, beginning with the assassination of a President, John F. Kennedy, murdered in the streets of Dallas. Was there a Cuban connection? Were the Russians involved – it was reported that Lee Harvey Oswald had been schooled or trained to some degree in the USSR. In the following year, 1964, Lyndon Johnson enjoys a landslide victory in the Presidential elections partly by promising the American people that he would not send American boys to fight Asian boys' wars. A month after his inaugural, American planes bomb North Vietnam and a few months after that the Marines land in Da Nang. Then, in the mid-sixties, the Black Revolution. Deprived, disillusioned, depressed, the black minority in this country takes to the streets – 'burn, baby, burn'. The inner cities did, indeed, burn so devastatingly that in Newark, for instance, many of them have still not been repaired a decade later. The final build-up of the Vietnam War coincided with this Black Revolution. The President is driven from office in 1968, his credibility and his capacity to lead utterly shattered.

Another President is elected, saying he has a secret plan to end the war. But it is not ended, it is expanded. Thousands of young Americans, fed up with their country, flee to Canada or Sweden to get away from what they have come to regard as an unjust war and an immoral government. The President who gets elected in 1968 gets re-elected in 1972 by another landslide, another act of faith by the American people. Then, a year and a half later, that same President resigns in disgrace as a result of the Watergate scandal; the first President in American history to do so. The American people finally turn to an outsider from Georgia, choosing anyone so long as it is not the usual insider, a hanger-on, a relic of politics, war and revolution. It is still too early to say whether the new man on the block will satisfy the people or again disappoint them.

Throughout this tumultous decade and a half the press has played a very special role. Woodward and Bernstein did what no Communist conspiracy could ever do; they brought down an American President. As a result, they are celebrities and predictably, they have fallen victim to adulation, which is excessive, and condemnation, which is unacceptable. They have become the men on white horses riding into the breach when disaster appears imminent.

Many would agree that a return to normalcy in this country would therefore seem to be in order. But no one can agree how to do it. There are those who argue that even in the United States newsmen do not

have the right to hound Bert Lance out of office. The same people with this same argument say that these newsmen did not have the right to publish classified documents from the so-called Pentagon Papers. They did not have the right to reveal the massive deception that marked the Government's attitude during the Vietnam War. They did not have the right to tell the story of black anguish in white-run America.

The argument goes that while the press ought not actually to be regulated, it ought to be a bit more responsible. It assumes that in a free society it is a simple matter to decide what is responsible, or who determines what is responsible.

But one man's responsibility may well be another man's irresponsibility, and vice-versa. It is not a simple matter at all. It cuts to the very heart of a free society.

I would argue, taking the opposite position, that newsmen should have the absolutely guaranteed right to be irresponsible. The moment someone has chosen to decide whether a reporter has acted irresponsibly, even to a very limited degree, that reporter has lost not a little of his freedom, but all of it. His society can no longer be considered free. No one can be a little pregnant, no one can be a little free.

In his last opinion as a Justice of the Supreme Court, Hugo Black wrote of the US Constitution: 'In the First Amendment, the Founding Fathers gave the free press the protection it must have to fulfil its essential role in our democracy. The press was to serve the governed, not the governors. The government's power to censor the press was abolished so that the press would remain forever free to censure the government and inform the people.'

Some people may squirm at the idea of total licence, total freedom. Others may look towards the ceiling, considering perhaps in an excessively tolerant way that while the thought, although radical, might be relevant to a powerful country such as the United States, I would be naive and inexperienced in the ways of the wider world if I honestly believe that that concept should and could be applied to much of the rest of the world. But I do believe it.

Freedom flourishes only when newsmen are free. They are the trailblazers through the darkness of political oppression and control. Every time the United States has edged away from its principles and its Constitution towards defining the so-called rights of newsmen, it has in my opinion edged away from freedom itself. In this country the Constitution never set strict guidelines on a fair press or an honest press or a good press. It set guidelines only, and in the broadest way, that it be a free press. There can be no standards, laws, rules, that determine a free press. It is simply free – free to be rebellious, heretical, mad, disgraceful and even irresponsible. No doubt, given this licence, some newsmen will behave poorly and unprofessionally. Most of them will not.

Some people may ask if newsmen have the right to publish official secrets? My answer is yes.

Many years ago a reporter for the *New York Times* found out about an American plan to send Cuban refugees to attack the Castro regime and overthrow Castro. The attack was scheduled for early 1961, at the Bay of Pigs. President Kennedy found out about the reporter's investigations, telephoned the Editor of the *New York Times*, and appealed to him that the story be killed. The Editor was impressed and the story was killed. The Bay of Pigs was a disaster, to the President, to the United States, to Cuba and to the cause of better relations between Cuba and the United States. Afterwards the Editor and the President both agreed that they had done wrong. The reporter should have been allowed to publish his story. Once published, it could have aborted the mission and saved many lives as well as, in a political sense, the early glitter of the Kennedy years. Let no official tell a reporter what he can or cannot publish or broadcast.

Let the reporter be responsible for the story's accuracy and impact. Only then will the society they both serve be free to be right or wrong, and both be free to be either. The point, and here I would like to quote Alan Barth in a recent article in the *Washington Post*, is that a free press is the watchdog of a free society.

Barth says playfully: 'If you want a watchdog to warn you of intruders, you must put up with a certain amount of mistaken barking. Now and then he will sound off because a stray dog seems to be invading his turf or because he sees a cat or a squirrel or is outraged by a post man. And that kind of barking can of course be a nuisance. But if you muzzle him and leash him and teach him decorum, you will find that he doesn't do the job for which you got him in the first place. Some extraneous barking is the price you must pay for his service as a watchdog.'

Being a watchdog is not an act of poetry or political expediency, but the function of a free press in a free society. It is the reality to be preserved in some cases, to be aspired towards in many others.

10

NEWS VALUES ARE SOCIAL VALUES

Gerald Long

It is pointless to try to separate, in any society, what are called its news values and its general values, national or international. The values which are called news values will have been formed by the various processes in the society that form values. It is the same process that moulds all values.

In countries where the media do not have a role in development, their role is simply to inform. The idea, in other countries, that the media do have a role to play in development seems equally legitimate. This kind of activity has always existed. It was known as 'propaganda', when that word had a respectable connotation. 'Propaganda' is not, strictly speaking, information. It may contain information. But its purpose is didactic and anything that intends to be didactic is destructive of what I regard as news values.

One of the problems about talking of news values is that no one has any idea what is meant by the term 'information needs'. Nobody knows what individuals or societies need in the way of information. The organisation that I principally serve, Reuters, supplies information to a lot of people who know exactly what they need because they're going to use that information to trade and to make money. In this case, the meaning is very clear. But if someone doesn't need information for that purpose, it is very hard to say why he does need it. It is even harder to distinguish between different bits of information. It is very common in some developed countries to attack those media that have a clear idea of what large sections of the population think they need – the popular press, tabloids, publications that sell very successfully.

To attack these publications seems to me, again, quite pointless. They occupy a place in the media which seems to me quite legitimate. The biologists tell us that in any more or less closed system, the organisms will always take on all the available roles. With animals, there will always be a herbivore, there will always be predators, there will always be scavengers. We don't reproach an anteater because it's not a cow. But some people do reproach the *Daily News* because it's not the *New York Times* . That is not so much unjust or ridiculous, as pointless.

The popular newspapers that are close to the market, and therefore close to what we know as 'news values', often do their jobs rather better than what are traditionally thought of as the serious newpapers or the serious media. If the serious newspapers did as good a job, we might have a better press.

A lot of the research in this field – particularly sociological research – is pointless and has no value. Observation is very useful and some analysis is useful, but an awful lot of research tells me little that I didn't know before. A lot of it tells me things that are obvious, like the fact that if I tell a lady that her dress is pretty I cannot, at the same time, tell her that her house is on fire. Obviously, if you tell people one thing you can't tell them another. Information competes for attention span. If somebody chooses to use his attention span to read detective stories or the *New York Daily News* , who is going to tell him that he should be studying the situation in Baluchistan? That seems to me incompatible with any idea of freedom.

The communication of information is not a right, as it is sometimes suggested. It is a function, a defining function, and where it is not present, man is degraded. The current rage for definition in these matters seems to me to contain some extremely dangerous elements. By defining such things as rights, you immediately restrict them.

Just as every society has to find ways of producing the architects, road builders and bridge builders that it needs, so it has to find ways of producing the 'informers' that it needs, the media that it needs. If a society can perform the task satisfactorily, then it can indeed sleep soundly.

There should be a group of 'informers' in every society. There also has to be a group of knowers. In feudal society there were people who did something for the entire group: the warrior who fought for all, the priest who prayed for all, the farmer who grew for all. There has to be a group who know for all. The 'all' are not going to know now or ever, for the simple reason they don't want to. It doesn't interest them. Society has to produce the 'informers'. It has to produce the knowers. How it does that, by what mysterious processes, I have no idea.

FREEDOM OF THE PRESS AND OTHER FREEDOMS

James Kangwana

There was once a newsman from one of the developing countries who was working in one of the developed countries. He enjoyed being able to collect and publish stories without any interference from the police.

But then it was pointed out to him that he could live in the developed country until he was 90 years old but he would not, in the long run, make any difference to the welfare of its society. If he went back to his own country and used the same ethics of news reporting, he might find himself in trouble. But he would have the chance of making an impact and helping that society to develop.

The need to inform and to be informed has been described as one of the fundamental human needs. The first part is generally accepted. Problems do arise, however, and particularly from the perspective of a developing country, when we begin to ask ourselves who should inform, and who should be informed, and under what circumstances. It soon becomes clear that the need to inform and to be informed is only one of many human needs, and possibly one that is secondary

Are the circumstances more important than the event? The social context more important than the news story? For many years, the people of Kenya were governed by colonists, outsiders. We sensed this problem, in terms of news and information, but we did not have the opportunity to examine it for ourselves.

It was not until after Independence that the Kenyan News Agency was created. The Agency was entrusted with the responsibility of running the national news service. Part of its job was to take in all international news and disseminate it to the users; that is, the newspapers and the national broadcasting authority. It did not give news direct to the public. That has always been a shared responsibility of the news media, the private sector, and the national, public service broadcasting system of the Voice of Kenya.

The KNA's first problem was its coverage of Kenya's new leadership. People began to think that those who were responsible for popularising the leadership were not being journalists so much as public relations men. It was also clear that the leaders were repeating themselves simply because the newspapers gave them a platform. The politicians were actually the first to point out that the journalists were undermining the position of the leadership as a whole. One response to this situation was to give local leaders an opportunity to report their own news; in other words, to create a dialogue between the leadership and the led and to generate a total involvement in the national situation.

The reporting of international news raised quite different problems. Most world events are distant and unrelated to Kenya's day-to-day problems. They have little direct social relevance to the journalist's own society. This distance gives him the freedom to talk about issues without undermining his own social system. But this freedom itself has the effect of undermining the very society for which he is reporting.

The subject of the flow of news, therefore, both nationally and internationally, raises questions which go beyond the role of journalism. It concerns understanding the relationships between people, individuals and societies, the understanding that is necessary for creating cohesion without undermining the social fabric.

When it comes to the question of responsibility, we look to the flow of news and information to create a society, and to maintain its life. The government is not simply a body of people who have been elected to power but the very embodiment, the visible embodiment, of the society. It is sometimes necessary to challenge the government. But the rights and wrongs of such challenges can be often misunderstood by the very people in whose interest journalists advocate freedom of the press. The question, then, is about going beyond those legitimately elected to government and trying, in the interest of the society as a whole, to interpret precisely what they're trying to do.

Freedom does not flourish when newsmen are free, but when both newsmen and others live in peace within a society. The watchdog is not a wild animal. It is a domesticated animal, and it cannot survive in a jungle. It is therefore important to understand the cultural background and the social norms which obtain in a country before we can begin to report responsibly or to talk about the flow of news.

Many of our journalists are well-informed. They understand the role of the community; their business is to report news. The debate on the flow of news, both at a policy and professional level, is of direct interest to them. The trouble is that when things go well, no one praises them; but when something goes wrong they are blamed both by the policy makers and by their readers and listeners. And journalists have no constituency from which they can rally support.

Perhaps those of us who live in peripheral countries (peripheral in terms of evolution) should stop seeing the problems of the flow of news and social responsibility in terms of what happened in history and the continued subtleties of oppression. Perhaps we should examine, as newsmen, the social and political conditions in which the necessary flow of news and information can become an instrument for aiding and guaranteeing the balance in the democratic development of our societies. Only in that sense may we hope that the flow of news may expand not only the freedom of news itself, but also the other freedoms of man.

GATE-KEEPERS AND NEWS PRIORITIES

Yehia Aboubakr

Our investigations into possible links between news values and socio-economic priorities has to be global if it is to be realistic and useful. It should include all countries, and all media.

It should not overlook the attempts, in many countries and on both national and international levels, to use communications and information to support and accelerate economic, social and cultural development. News is an integral part of any information system. News values and their implications are fundamental to the formation of national communications policies.

An audience's appraisal of values and priorities, together with an audience's influence on the choice and selection of news, should always be of interest. We can never have too much audience research. Yet in developing countries the formation of communication policies is often done with little or no research.

In many cases this one-way approach has led to erroneous or subjective value judgements. Projects which have used the media to promote development have not met the expectations of economic and social planners or produced the intended results. In many countries, the media's treatment of such issues as productivity, family planning, abortion, desert reclamation, energy conservation, water resources, drug addiction, crime, juvenile delinquency, wasteful consumer habits, poverty and illiteracy has failed to get a positive, active response because of an inherent contradiction of values and social priorities in the media's presentation of news and views. Sometimes the media are even accused of perpetrating or accentuating some of the social evils connected with affluence or poverty, with over-development or under-development.

By the same token, contradictions in news values may have adverse effects on the domestic, international or transnational flow of information, and lead to distorted images, frustrations, and antagonism, or apathy.

Modelling on a global scale, or depending too much on borrowed models, can mislead. On the other hand, the fragmentation or isolation of facts within national or regional boundaries ignores the recent important changes in world communication flows. These flows have not yet been measured or mapped. When they are measured, the interdependence of news values and socio-economic flows must be taken into account.

Extending the concept of 'the news that's fit to print' to all media will reveal hidden standards of practice, and resurrect a series of spectres, old and new, each claiming to be the guardian angel of social equilibrium and decency, progress, and the welfare of the masses. 'Newsworthiness' is as controversial a standard as any in the social and psychological context of mass communication. But an exchange of concepts and experiences from as many parts of the world as possible, and from varied cultural, social and economic backgrounds, will at least provide some aggregate of variables at work in the interaction of news values and socio-economic priorities.

In spite of all the differences and obstacles to an adequate and balanced flow of information, 'our common pool of media knowledge (is gradually establishing) a new set of neighbours for us, based not on geographic location but shared information' [1] Mass communication can harm, by the illegal, illegitimate and immoral manipulation of the capabilities of mass communication, domestically and internationally, and by its blowup distortion or interruption of the image or images of morality, ethics or value systems. But the same mass communication can, by its very nature, allow us to share more information with more people. Consequently, more human experiences are becoming common property, irrespective of ethical, cultural or socio-economic differences. This common information environment 'standardises backgrounds and attitudes in everyday life'. [2]

In the last few years, several issues have gained this global prominence. No 'gate-keeper' can deny that

news of pollution, hunger, health care, racial discrimination, crime and poverty has a 'high news value'.

On another level, a 'gate-keeper' may find himself in conflict with his conscience when several systems of values (such as his own and his organisation's and/or his audience's) are difficult to reconcile. When the conflict is between public and private attitudes, the 'gate-keeper' usually evades the conflict by departmentalising his personality. He acquiesces with the values of his social group and accepts its priorities.

When the conflict is with his organisation's system of values, the problem is often solved by resigning. Otherwise, as Sander Vanocur, formerly with NBC, puts it, you find more and more that your journalistic behaviour pattern tends more and more to be shaped towards an expression not of what you believe but rather towards what Big Mother (NBC) will find acceptable.' [3] You become part of the establishment. You modify your own personal values in accordance with the requisites of the organisation. Social priorities are surrendered sometimes by the 'gate-keeper' employed by commercial media when they clash with economic gains. Others are given up by 'gate-keepers' employed by government-owned media when they are considered a menace to social, political or economic equilibrium. The most common response is to omit sensitive issues. One flagrant case is cited by Donald McDonald in a very interesting article on the *Media's Conflict of Interests.*[4]

'Gate-keepers' often transform themselves, or are transformed by the socio-economic environment, into 'standard bearers'. They become more militantly active in their choice and selection of news in order to promote the priorities of the socio-economic structure to which they belong. The danger here is that the contents of the communication are deliberately adjusted to fit an ideology or counter ideology. This type of distortion was discussed in detail by Harold Lasswell as far back as 1948 when he cited among the most serious threats to efficient communication those related to the values of power, wealth and respect. [5] These values, among others, have never been universally absolute and they vary considerably from one socio-economic context to another.

A study which started earlier this year in the Arab countries (simultaneously with the study, within its International Communications Flows project, on the Arab World) considers the 'gate-keeper' concept together with audience preferences and reactions.[6] A strong interaction between the forces of planned socio-economic change and news values has been revealed and, in fact, is conspicuous enough to attract the attention of social scientists and media research workers.

The direct impact of socio-economic changes on attitudes and news values is also being analyzed. It will be linked with attempts to determine how far activities carried out by the press, radio and TV are related to positive or negative social behaviour regarding development plans. Because of the unifying ethnic, cultural and economic factors that constitute the concept of One Arab Nation, this study deals with Arab countries as one integral region, in spite of variations between their individual socio-economic situations.

The preliminary work of this study covered one week of press, radio and TV news stories on June 17-24, 1977. The results indicate that, after presidential, royal and national political news, the following fifteen categories, in the order given below, were the most common. The criteria for popularity were banner headlines; appearance on the first page; the amount of space allotted to a story; and the various devices in radio and TV that give emphasis:

Economic development (general)
Housing
Social and political guarantees for workers and peasants (Egypt)
Education
Social Security
Sports
Utilities
Desert Reclamation
Family Planning (Egypt)
Health Services
Crime
Urbanisation
Transfer of Technology
Religious Events
Women's Rights

These countries have one-tenth of the area of the Earth and 3.4% of the world's population. But their income is rated at only 1.1% of the world's and their average per capita consumption of electricity at 2% of the US average (in spite of the fact that these countries are major oil producers and exporters).[7]

In this context, an over-concern with development and decent living is only natural. To people in this part of the world, the issues revolving around development are much more important than pollution, the energy crisis, safety on the streets, the launching of 'Enterprise' or the arrest of the Son of Sam. Their concern is legitimately reflected in the various media's system of priorities.

Racial discrimination is not a social issue in Arab countries as it does not exist in those countries. It derives its importance from its political and human rights battle in South Africa, and the Arab-Israeli conflicts.

As far as 'gate-keepers' are concerned, all Arab radio and TV services are state-owned with the exception of one TV station in Lebabon. The journalists are directly or indirectly on their government's payroll.

The press is different, but their managements remain susceptible to considerable political leverage and their news staffs are more conformist than non-conformist. The oldest are in their fifties, the youngest in their twenties. Most of them (about 90%) work in a metropolis, although many (about 60%) were born and brought up and received their elementary and secondary education in rural areas.

A majority of staffers (about 80%) think that accelerated economic development accompanied by an intensive transfer of technology, and measures to promote social justice, is the only remedy for the area's economic and social ills.

This view is virtually identical to the declared policies of the several governments and with the views expressed by a majority (about 80%) of a sample of the audience. In answer to another question, most (about 70%) expressed their conviction that the return of peace to the Middle East is a pre-requisite of the desired socio-economic change.

Many 'gate-keepers' in the Arab part of the world are conscious of a direct relationship between their news values and the socio-economic priorities defined by national consensus. The changes attributed to national liberation and the oil revenues are becoming integrated with their own personal value systems, whose roots are deeply entrenched in tradition.

In an interview published two months ago in the *International Herald Tribune* an Arab from Bahrain said, "With the advent of oil we discovered a lot of things in life. There was a new trend. People wanted to build houses, to travel, to know other people. They are really eager to see the advancements but they want to keep their traditions too." The media is busily catering to these expectations.

At the same time a minority (about 10%) of 'gate-keepers' showed the apprehensions expressed three decades ago by Lazarsfeld and Merton about mass media's 'narcotising dysfunction'. They are afraid lest the heavy supply of news may generate a superficial concern that actually 'cloaks mass apathy'. They warn against an overdose that might transform 'the energies of men from active participation into passive knowledge'. In the context of news values and social priorities, negative awareness should never be allowed to be a substitute for action, and exposure to news should not induce passive satisfaction with a 'secondary contact with the world'. This would be a serious interruption of the circuit in the information action model of communication.

In this vast area of news values and socio-economic priorities, special attention has to be given to the roles of both the leadership and the masses. We have to look at their joint motivation in bringing about universally accepted standards of practice that will lead eventually to a sharing of values and the mutual understanding of priorities. These priorities should be compatible, in terms of the inalienable right to inform and to be informed, with the vast strides of communication technology which have brought peoples of the world closer together, narrowed social and cultural gaps, and almost eliminated distance.

Now is the time for communicators of all nations to consider the possibilities of this great human adventure.

1. Tony Schwartz, *The Responsive Chord*, (New York, Anchor Books, Doubleday, 1974) p. 140.

2. Ibid, p. 44.

3. Edward J. Epstein, *News from Nowhere*, (New York, Vintage Books, 1974)p. 201.

4. Donald McDonald, 'The Media's Conflict of Interest', *The Center Magazine* (November/December 1976). A shortened version was published in *Intermedia* (International Institute of Communications, London, Vol. 5, No. 3, June 1977).

5. Harold Lasswell, paper published in *The Community of Ideas,* 1948 and reprinted in *Process and Effect of Mass Communication,* edited by Wilbur Schramm and Donald Roberts, (Urbana, University of Illinois Press, 1972) pp. 94, 95.

6. Unpublished study by the author of this paper.

7. Unpublished study on *Global Modelling* by Dr. Mohamed M. Al-Imam.

3. THE MEDIA IN DEVELOPING COUNTRIES

The use of communication media to assist in schemes of development and social welfare is becoming much more explicit and more coherently planned. There is a new interest in using both traditional and electronic media to create awareness, to deliver information, to provide support for both large-scale campaigns and strategies and specific projects in such areas as population control, health education and learning to read.

These six papers illustrate different aspects of this relatively recent development.

USING COMMUNICATION TO SUPPORT DEVELOPMENT: THE GUYANAN EXPERIENCE

Kit Nascimento

'The greatest problem in communication is the illusion that it has been achieved'.

Is there any common denominator ascribable to 'developing nations' in communication terms? Certainly, there are a good many aspects about those countries which are variously described as 'developing' or 'under-developed' or 'non-industrialised' or 'third' or 'fourth world', which seem to be common.

They are all poor (the non-oil producing nations getting poorer); they all require access to advanced but selectively relevant technology; they all carry increasing debt burdens and shrinking budgets; and most are seeking to emerge from a past of imperialist and/or colonial domination and exploitation.

Translate these similarities into human terms and they spell: high unemployment (Cuba is perhaps an exception), a dearth of managerial and professional skills (further aggravated by a brain-drain), a pervasive sense of psychological inferiority and dependency, a loss of cultural identity, an entrenched indiscipline, unproductive attitudes and rising expectations.

These are nations all of which are 'formally' independent. But in the words of the Prime Minister of my own country, Forbes Burnham, spoken ten months before Guyana became independent in 1966: 'If we achieve independence we have got to look not only to hauling down one flag and putting up another. . . . not only to having formal control of our economic and international affairs, we must see to it that we achieve more than these – namely, the decolonised attitude of our leaders and of our people.'

Dr. Eric Williams, Prime Minister of Trinidad and Tobago, in *From Columbus to Castro: The History of the Caribbean 1492-1969*, identifies the problem of dependency as 'cultural, institutional, intellectual and psychological.' Prime Minister Williams argues that 'artistic, community and individual values are not for the most part authentic but. . . possess a high import content, the vehicle of import being the educational system, the mass media, the films, and the tourists.'

In a nutshell, developing nations, by definition, need to develop. But any development programme, especially those with an urgent set of priorities, no matter what set of ideals it may be based on, will fail to accomplish its aim unless it has the understanding, support and participation of the masses of the people.

In a developing nation, therefore, probably the most essential ingredient to development progress is the raising of the national consciousness of the people to a point where they can contribute to decisions about development and effectively execute the decisions to which they have contributed.

In real terms, we are talking about the need for an enormous degree of rapid, radical, unexpected and often unpredictable change, and, as Millikan and Blackman in *The Emerging Nation*, point out: 'the paramount requirement of change in any society is that people themselves change.'

Governments of almost every developing nation, beset as they are with economic difficulties from imported inflation and wildly fluctuating commodity prices, usually outside their control, though frequently possessed of economic potential in natural resources still to be realised, preach and attempt to practice philosophies of self-reliance, collective endeavour and egalitarianism.

But, classically, the people harbour attitudes born of a paternalistic colonial past which are psychologically resistant to such concepts; attitudes and behavioural pattens nurtured and developed over centuries to serve and service a former colonial or imperial power. The demands of independence

and development, if they are to be met, require a hugely different outlook and approach.

Administrations in developing nations are confronted with the need to restructure, very often, the entire nation: its political, social, economic and cultural life. Without effective communication, deliberately planned, organised and directed in a manner and form peculiarly relevant to the existing environment, very little in development terms is likely to be achieved.

But developing nations are faced with two major problems:

1. The marked tendency of political and economic planners, in a huge hurry to get on with the job, to make decisions in isolation from the historical, social, cultural, and psychological constraints which influence behavioural change in people; and the fact that they forget that development is about people and for people.

2. The still predominant belief, and still encouraged by what Jeremy Tunstall in *The Media are American*, describes as 'the free-flow of Anglo-American 'experts' ' that the mass media, especially the electronic media, are the most effective communications delivery system in support of development progress.

Tunstall points to Wilbur Schramm's *Mass Media and National Development (1964)*, which, he says, 'immediately became the UNESCO bible' on communications in 'Third World Countries.'

This concentration on the need for the development of sophisticated mass media delivery systems, promoted through Schramm's book by UNESCO, from 1964 to the 1970s, has led developing nations, as Tunstall documents, to adopt communication services which are almost entirely, both in terms of technology and programmes, dependent upon 'Anglo-American imports.'

The literature is legion on the communication imperialisms which have resulted and the consequential failure of mass media delivery systems to support development needs and priorities: H.I. Schiller, Luis Beltran, Henry Cassirer, Rita Cruise O'Brien, Mary Burnett, Elihu Katz, to name but a few.

In a scholarly, well-documented paper prepared for presentation at the 10th General Assembly and Scientific Conference of the International Association of Mass Communication and Research, 1976, on the subject of television impact on the minds of Latin Americans, Luis Beltran identifies what he calls the 'twelve main images' induced by television delivery systems studied in Latin America, all of them in direct confrontation with development needs and priorities. They are:-

Individualism
Elitism
Racism
Materialism
Adventurism
Conservatism
Conformism
Self-defeatism
Providentialism
Romanticism
Agressiveness

The listing does not imply any order of ranking.

My own country, Guyana, has steadfastly resisted the temptation of introducing television technology, mainly because we fear the problem of the technology being used to 'drive' the delivery system, rather than the needs of the system dictating the type of technology and its use. Nevertheless, it is my view that the series of negative experiences had with television throughout the poor nations of the Afro-Asian-Caribbean-Latin American world is not sufficient reason to reject the medium. Both Everold Hosein's *The Problem of Imported Television Content in the Commonwealth Caribbean* and Elihu Katz's *Can Authentic Cultures Survive New Media?* seem to support my view.

Katz writes that 'there is a sameness in the style of television and radio presentations which has come packaged with the technology. . . wrapped together with instructions for presenting a news programme or variety show . . . One wonders whether this has to be. Cannot Nigerian or Peruvian or Senegalese television be more indigenous, not just in programming, but in style?' Katz identifies the important difference between 'content of specific programmes' and 'conception of the role of the media.'

Hosein illustrates the whole problem of television systems that were installed initially as glorified

telecine chains unable to produce effective local programmes; the low-cost of imported canned material against the comparatively high cost of locally produced programmes; the shortage of local talent; the insatiable appetite of television; the *I Love Lucy* or *Kojak* audience syndrome, etc. He, however, remains optimistic: 'We cannot so easily resign ourselves to the presumed inevitability of extensive dependence on imported television content. With imagination, effort and 'programming will' we can find options which allow for some increase in the quantity of local productions. We may not achieve the elegance and gloss of Europe or of North America but we would have begun the process of creating our own aesthetic.'

A much more positive approach definitely needs to be taken on the value of television as a communication delivery service in developing nations. Surely, countries which so urgently need to mobilise their populations in support of development, cannot simply be advised to ignore the teaching and persuasive power of what Asa Briggs has described as 'visual literacy.' The fact that language itself finds its meaning ideationally, through pictures in our minds, should be sufficient reason for developing nations to take advantage of the communication technology that is universally acknowledged as having the greatest potential for effectively conveying images.

There is no doubt that in almost every developing nation where television has been introduced, it has immediately pandered to the lower order of audience taste, has imported and used great amounts of irrelevant foreign programming and has proved to be much more destructive of national development goals and national cultural integrity than supportive of their fulfilment.

What has almost always been overlooked, however, is that the technology has been the driving force and not the programme objective and the communications concept.

There seems no reason, for instance, why a developing nation should follow the classical television programme format that demands the broadcasting of 'X' hours of television 'Y' days per week.

If there is a clear understanding that development needs must drive the delivery service, and not technology, then there is no reason why the system should be driven by what Bert Cowlan calls 'the tyranny of the clock.'

In her IIC Research Study, 1974, Rita Cruise O'Brien noted that 'the unquestioned striving for continuous broadcasting once television has been established makes the reservoir of relatively cheap imported programmes nearly the only source of material.'

The classical television approaches, which have led to a surfeit of irrelevant foreign programming, have had to do with the definition of 'quality'. Quality has nearly always been defined in terms of highly sophisticated production and presentation techniques, with the technology forcing upon the programmer a demand for slick production values.

Quality for a developing nation, however, should be defined in terms of 'communications effectiveness.' Since it has already empirically been established that simple audio-visual techniques are usually more effective for education and instruction than glossy production, developing nations, especially those which have not yet programmed their audiences for North American formats, can define 'quality' in terms of their effectiveness in conveying messages in support of development interests.

In so far as imported programme material is concerned, there is not, as far as I am aware, any comprehensive international pool of knowledge which can identify at short notice available programme material. There is need for such information.

I am referring here to programme material which is not solely concerned with instructional education but which can entertain and inform in a manner which would be both culturally and politically acceptable to the ideological and development priorities of most developing nations.

A research exercise into this problem recently conducted in Guyana with the assistance of Bert Cowlan indicates a vast, generally untapped and individually catalogued amount of non-commercial television films and video material which would not menace national values which tend to be 'modular' and 'neutral.' Some of this material is becoming available from developing nations but again in a disorganised fashion.

Not all Euro-American commercial TV programmes are unacceptable and the great advantage television has over cinematic film is that the management of the television station can apply its own standard of selectivity much more effectively than can the usual film censors board.

In any event, given a reasonable range of choice and a defined criteria of ideological and developmental

needs, the selectivity and exposure of imported material rests in the host country's hands.

One communication specialist who did not 'free flow' out of UNESCO but remained to see and evaluate is Erskine Childers, who is today Director of the Information Division of UNDP. It was Childers, from his experience when head of the UNDP/UNICEF DSC Service in Bangkok, who devised and pioneered the concept of Development Support Communication.

He advocated a national systems approach to co-ordination. Communication delivery services should aim at direct contact with the specific groups of people who are ultimately required to participate in development plan implementation, rather than rely upon mass media publicity to gain support for development plan priorities.

Childers' work came to the attention of the Government of Guyana in September 1974 when it became the subject of discussion at the IIC's Annual Conference in Mexico City. A seminar on Communication and Information for Development Services in the Caribbean under IIC sponsorship further explored the DSC concept in December of that year. One of the seminar's conclusions was that 'any development strategy must be based on an understanding of and respect for human beings in their total environment.'

In essence, how best do we organise communications delivery services to achieve the kind of understanding which would lead to the maximum commitment to and involvement in the development process by people in their communities?

In his *Introduction to the preliminary proposal for an Iranian Development Support Communication System*, Childers acknowledges the usefulness of national all-media publicity 'to give the people a picture of the nation's goals and targets'. But he argues that 'an entire further dimension and programme of planned communication is required beyond planned publicity and role awareness.' This he says, 'is the work of getting actual groups of human beings throughout the country to undertake specific changes in their patterns, value-systems, management of natural and social environment, production techniques and family care.'

Essentially, development support communication accepts a basic communications truism – that the most reliable and effective delivery service of all is face-to-face contact.

It recognises that for every development project plan which comes off the drawing boards there are two audiences which need to be communicated with. The 'internal audience' is the planners themselves and all those government or quasi-government agencies working on some phase of the project – all of them people who have other concerns and responsibilities. The 'external audiences' are the variety of groups of people whose lives will be intimately affected by the implementation of the project and who often will be required to enter into an entirely new phase of living and livelihood.

Development Support Communication methodology attempts to build a communication element into every development plan project; first at the planning stage and second at the implementation stage. The objective is to integrate a functioning communication network within these two levels in order to identify, at an early stage, the needs of the planners, deepen the understanding of the groups of people intimately involved in the project and finally mobilise people in support of the project.

To a very large extent the DSC system seeks to decentralise communication delivery services. It aims to locate them amongst the people they are intended to serve, so that they may be responsive to the needs of specific audiences for specific projects. The production of communication materials are tailored for delivery in small groups at specific community levels, and make use of 'small' rather than 'mass' media.

The use of traditional or folk media, especially in rural communities, fits the DSC approach. In the Caribbean, the calypso has always been an effective channel for social comment. It can be equally effective for conveying modern development messages, providing it is used sensitively and the artist is allowed to translate and dramatise the message in his own terms.

In an exclamation of traditional media for the purpose of conveying modern messages in India, Pakistan, Sri Lanka, Malaysia and Indonesia,Wimal Dissanayake warns against any simple assumption that this may be done effectively. He says that 'the most judicious course of action would be to make no fundamental changes in the content and structure of traditional media but rather use their forms for the transmission of modern messages.'

Guyana has attempted to institutionalise DSC practice in its largest and most ambitious development project, a 3,000 megawatts hydro-electric facility some 300 miles in the heart of virgin jungle and hostile terrain. Over 1,000 workers, functioning in extremely isolated and harsh conditions, are involved,as well as a large variety of other people spanning a considerable number of governmental, trade union,

indigenous and religious organisations and agencies.

Practice has already established that conflict, disinterest, personnel problems and administrative bottlenecks have frequently been avoided and usually unravelled because of the DSC elements built into the project. In contrast, the mass media publicity given to the project has more than once led to confusion amongst those intimately involved. A complete evaluation of the effectiveness of DSC on this project is presently being undertaken by the project management.

DSC is of course not some magic formula that guarantees effective communication at all levels of any developing society. It is merely an effort to systemise an approach to public communication and information dissemination so that the development process does not proceed in isolation from the people that it is intended to serve.

It is an approach which is not without serious difficulties, judging from the Guyanan experience. One of these difficulties is an impatience on the part of political leaderships and project managers to deal with communications problems too quickly, as they arise, without always wanting to wait for a full analysis of all the implications which may follow from such a hasty decision.

Another difficulty is that the very introduction of such a system places an additional burden upon a governmental structure that is usually already overextended in terms of the human resources who have to be trained and equipped with skills and who have to find time to do the job.

It is not a system which can be introduced and implemented overnight. It takes time, serious application and a good deal of experimentation and amendment.

In developing communication delivery services, many developing nations have, perhaps by force of circumstance, or inheritance, allowed these services to be established in isolation from one another and in isolation from any national communications policy and plan. Given that the primary objective in developing communications services and facilities is to enable the mobilisation of a country's human resources in support of national goals, it is an imperative that the entire communication/information process be organised and co-ordinated as part of a total policy. In the final analysis, each delivery service must be complementary to and supportive of the other .

VIDEOTAPE AS A DEVELOPMENT TOOL

Martha Stuart

Our work is devoted to producing social change through human exchange. The special medium we use is videotape. During the past dozen years, Martha Stuart Communications Inc. has pioneered many ways that videotape production can be used to promote and achieve development goals.

We see our successes primarily as products of a philosophy of communications that puts people first. We start by asking what influences people's behaviour, how do they become personally involved in the processes of social change, and how can their own capabilities be strengthened by access to new technologies?

Expressed in a condensed form, our objectives are information/choice goals, not authority/control goals. In other words, we try to give people the means to discover themselves, not just present them with an authority figure who will tell them what they should be doing/thinking/feeling. This approach corresponds to that of the growing humanistic educational philosophy which values the interaction between the educator and co-learners above the information to be transmitted.

Bringing these principles to bear on international development concerns has yielded a field-tested methodology for dealing with such sensitive but crucial issues as population, family planning, birth control, women's roles, sex behaviour and associated topics. This strategy also involves its own 'multiplication factor,' whereby training and equipment can be made available in-country so that the local population can carry on and expand the work we have initiated.

Two things were clear to us from the very beginning. First, we saw that ordinary people, whatever the culture, offer a subtle but powerful communication potential on issues of social change. By the example of their own discussion, they can encourage others like them to come to grips with information and attitudes that otherwise might be too threatening to face. And especially if the discussion is open and honest, dealing with personal ambivalences and granting different personal situations and backgrounds,

the effect is to *legitimate* the issue itself. If change is embodied in one's peers, it seems more familiar, more immediate and more understandable than when it is the programme of some distant or abstract authority.

A fine example of this phenomenon in action comes from a videotape programme we produced in 1972 with Colombian men discussing their vasectomies. One man, attempting to explain, said, 'It (vasectomy) is a river whose fishes have vanished, but it continues being a river.' The statement served at the time to galvanise understanding on the subject. But we know of no more accurate or effective image to explain in non-technical terms precisely what this threatening medical procedure is all about. The remark typifies what is possible working within the comforts of people's everyday idiom.

Second, we saw precious little contact between development people and communication people (especially television) in the developing countries. This meant there was very little possibility of meshing objectives: development issues were not finding their way into television programming, and when TV programming, of its own accord, stumbled into development subjects, the treatment was frequently negative (none the less so for not being intentional, in most cases).

Again, to use the example of Colombia in 1971 and 1972, when we arrived there to prepare our programmes, no one from Pro Familia (the International Planned Parenthood affiliate that sponsored our project which, incidentally, was the very first of its kind anywhere in the world) had ever been inside the television broadcast studios in Bogota. Indeed Pro Familia was surprised that the men on our tape were even willing to have what they said about vasectomy actually broadcast on the air.

Under the circumstances, it was evident to us that a great necessity and opportunity existed for providing a bridge between the communication media, especially television, and development organisations within developing countries.

Both these lessons from Colombia were confirmed for us in India in 1973. We were sent to India by the UN Centre for Economic and Social Information to produce a videotape for use at UN's 1974 Population Conference at Bucharest. The purpose of the tape was to get behind the rhetoric of the 'population problem' – to show that population is ultimately the result of innumerable individual decisions.

Without much more than that general outline of the task, we took a small crew to Delhi not quite knowing what we'd find. Once there we put together a programme with several couples from what we called the 'swing generation.' These were people between 35 and 45, almost all of whom worked, and who were children of large families (8 to 18 children) but who had decided to have small families themselves (1 to 4 children). Thus, while they had grown up within a traditional world view, they were now living out a new pattern of life. The couples were of Muslim, Hindu, Protestant, and Roman Catholic faiths.

The programme resulting from the discussions among the couples was judged a great success. The participants were perceptive and honest on the subject of what was happening between them as couples, open about their reservations concerning their present lifestyles, and articulate about the processes of change being played out in their lives. The discussion as a whole reinforced the values of information/control by letting viewers see that it was more important to deal with and discuss the issues being raised than to resolve them according to any single, particular, dogmatic 'solution'. A few representative comments served to give the flavour of the discussion:

- Mrs. A: '. . . I think when you plan a family, it's not only you and your husband in the picture – it's the children to be born – and that's why both my husband and I very much are against having one child, because then the only thing you have proved (is) you could produce . . . but don't have anything, no sisters or brothers. And for the same reason, I personally feel, too, that two is too small. In case one dies, or something, then one is left, so maybe three, you know, would be best.'

- Mr. B: 'I married later. If I had married earlier, I should imagine six or eight would do all right.'

- Mrs. B: 'But you wouldn't have had my co-operation!'

- Mr. C: 'You see, it is a vicious circle. The poor man will never get rich until he reduces his family. But he will never reduce his family until he gets rich. So now we have to find the solution.'

- Mrs. C: 'I feel very strongly that in our entire family planning strategy there is no element of compulsion, but there must be, otherwise this country will not survive.'

- Mr. B: 'But we have done nothing to give support to education or supportive motivation levels to our womenfolk.'

- Mrs. B: 'Parents now – particularly mothers – feel that they have more responsibility towards their

children and they should only have as many children as they can really look after, give them their time, educate them, train them. But earlier, this consciousness wasn't there. Now, this probably has been brought about by education. See, I come from a family of nine children. I have only three. But I know I am far more concerned about the upbringing, the education, how they should behave, how and what they should eat, about my children than my mother was. To her it was just natural, every three years she produced a child and we all grew up and the elder ones were on top of the younger ones. It has its advantages and disadvantages. But I do know from personal experience that my parents did not give so much attention to each child and each child's growth, both mental and physical, as I do.'

Yet we discovered that the taping of the programme was just the beginning. The chief editor of family planning materials for the Indian government asked us to bring together wives of men who had had vasectomies and to make a tape with them. We did. The UNESCO training center for communication technicians asked us to conduct a video workshop for them. We did. Doctors and interns wanted an opportunity to make a 'dummy' tape, so they could discuss among themselves the problems of delivering health care in India. We provided it.

Everywhere we were greeted with requests. People were hungry to discover what we might know, to learn from our body of expertise. Almost immediately we realised that our opportunities extended well beyond simply making tapes. Here were marvellous teaching situations, created by the eagerness of the prospective students. We discovered a great excitement sharing our knowledge and skills across national boundaries in this fashion.

On the basis of the India experience, we began to look upon the creation of a broadcast-quality colour videotape as only the tip of the iceberg of the work we could do. The bulk of our opportunity had to do with leaving a trained capability behind us. For example, simply by teaching professionals in other areas – such as population or health care delivery – to use videotape as a communication tool, we could create a tremendous 'ripple effect'. They could follow on to produce many more tapes for a wide range of uses long after we had departed with our production crew.

When we began the Jamaica Family Planning Project in 1974, under a USAID grant, we were prepared to pursue further the training possibilities inherent in our work. We had two corollary goals for the four-week contract: one, to produce a professional quality videotape on family planning for use as a communication tool throughout the island; two, to provide intensive training to Jamaicans on video technology and its applications at the interface between the health care delivery system and the recipients of health care services.

For the professional videotape programme, we brought together 10 Jamaican women from all walks of life. They shared views and experiences about marriage, about their subordinate positions, and about the instabilities of family life within the overall context of family planning concerns. They talked about the number of children they wanted, childbirth, and the crucial years of a woman's life.

Then, during a one-week period in January 1975, the completed tape was shown to a variety of audiences in many different settings where it was used as a 'discussion starter': in the waiting room of a hospital, at an adult education class, in a maternity ward, at a literacy class, in a school, at the offices of the health education bureau, small village gathering places, boys' camp, comprehensive health centre, and beer factory, to pregnant women, men, boys, teachers, health educators, family planning professionals, the Prime Minister and his family.

According to the evaluation report, the production was 'a rare success story much beyond the original expectation.'

Meanwhile, however, we were conducting an intensive two-week workshop in video techniques for more than a dozen communication people from such agencies as the Bureau of Health Education, Agricultural Information Service, National Family Planning Board, National Literacy Board, and the Jamaican Family Planning Association.

The Video Workshop provided its participants with a form of apprenticeship training during the professional video production. This involved on-the-job training in the various pre-production and production steps of putting together a professional videotape for the *Are You Listening* series. Two of the workshop participants returned with us to New York for a one-week apprenticeship in post-production and the final editing of the videotape.

In addition, however, the workshop also provided extensive narrow-tape training for portable video production. This included the making of eight actual field productions, with workshop members rotating as directors, camera operators, and sound engineers. Each tape was then evaluated in the workshop according to its technical quality, production efficiency, and a comparison of pre-production goals with the final

product. Locations for the eight productions were: Lionel Town Sugar Workers, Kingston Family Planning Clinic, National Literacy Board, Georges Plains Sugar Workers, Jubilee Hospital Clinic, Hope Garden, National Youth Services, and Youth Group at Central Avenue. These various training productions were then exhibited publicly during a one-day Video Festival.

Beyond the actual production experience, the Workshop offered participants a grounding in all aspects of video, from equipment utilisation, technical considerations, format choices, lighting problems, to the possibilities of multi-media events and the special advantages of videotape as a communication tool.

Lastly, during our time in-country, we managed to share a good deal of technical information with Jamaican broadcast professionals. The project required that we ship over 6,000 pounds of colour studio equipment to Jamaica, which at that time had no colour equipment (ours was the first colour production in Jamaica). We familiarised the Jamaican Broadcasting Company engineers and crew with our equipment.

In sum, the Jamaica Family Planning Project demonstrated that our video work could go well beyond actual production to a sophisticated – if brief – technical training programme covering the handling, care, and use of portable video equipment, and that this training could successfully equip people to make their own tapes for use in a variety of communication situations.

Later in 1975, in Egypt, we were again able to give concrete expression to our twin goals of production and training, although this time the training component took a somewhat different form.

The idea for the *Village Women in Egypt* tape originated at the UN's 1974 Population Conference, where it seemed there was a great deal of talk about what 'village women' in developing countries would or would not do. Rather than subscribe to the emerging stereo type of these women and their attitudes, we wanted to make a tape with women from some rural, tradition-bound area to see first-hand – and show others – the truth of the matter. We decided on Egypt as the setting and undertook an *Are You Listening* videotape production with 10 women from the villages of Tersa, Sandyoun and Matartaress.

The discussion among these women – wives, mothers, grandmothers – dealt with their roles, family lives, and traditions. Like the discussion among Jamaican women, this one took place in the overall context of family planning concerns, but opened out into wider subjects as well. The completed tape showed rural women dealing honestly and openly with their feelings about traditions, the opportunities open to them and to their children, and the force of the changes occurring in their lives. (Among the negotiations involved in the production was one with the village men of Matartaress, whereby the village women would henceforth be allowed to participate in the communal television viewing, a privilege they had been denied by custom).

The completed and edited videotape was then screened in the usual wide variety of settings for various kinds of audiences. With much local excitement and fanfare, it was shown in the villages where lived the women on the tape, where it generated an enthusiastic response and a strong desire by local men to figure in a tape of their own. As in Jamaica, the programme was one of the first colour productions to be broadcast over Egyptian national television.

Of all the official and quasi-official screenings of the *Village Women* tape, the most exciting for us was with a group of ministers from the Egyptian government. These men represented the ministries of Health, Education, Social Welfare, Manpower, Agriculture, and Labour. They were quick to grasp the potential of our work and direct it to their immediate concerns – nutrition, women's clubs, management, argricultural education, etc. The whole group was refreshingly receptive and supportive, eager not only to find additional uses for the tape we had completed, but to define new production possibilities. They especially liked the idea of people in developing countries speaking for themselves to the people of developed countries. (The *Village Women* tape has been broadcast not only in Egypt, but in Canada and Australia and is scheduled to be part of our upcoming series of *Are You Listening* shows on the US Public Broadcasting Service.)

Perhaps the single most exciting outcome of our Egyptian production experience, however, was to see how local people could carry on the work we had begun.

As part of the training/teaching dimension of our work, we helped UNESCO locate candidates for their training programme in the use of portable video equipment. We nominated Abdelsalem Mahamed Mostafa and Afaf Aly Abel Maksound, a man/woman team of family planning educators in the state of Fayoum. We had spoken with them at some length about the principles of peer-to-peer video production and we were absolutely delighted to return a few months later and see what they had accomplished on their own. With the portable equipment provied by UNESCO, they had made some excellent and effective tapes. Among them:

– A warm stand-up conversation with a family with two children in their bedroom;

- A gentle interview with a couple with eight children bringing out some of their problems in the couple's own words;

- A feature with a local woman sitting under a tree making rope out of palm fronds and talking, a tape that could be used to teach the handicraft in other villages;

- A village meeting with people talking over many different concerns;

- A feature on a local singer with nationally known entertainers and family planning information interspersed;

- A teaching tape with weavers, showing a local craft;

- A literacy play, two men talking about how one didn't get a job because he couldn't read his mail;

- A production titled, *Life* – a pastiche of music, markets, and human concerns (like, family size) made with local people.

We, in turn, taped *our* viewing of *their* tapes – and our conversation – adding yet another dimension to the communication processes at play. Some examples of the comments made by Afaf and Abdelsalem on the basis of their experience:

- 'Tape is better than film. It's important to do it more informally, not to have to turn the lights out and have a noisy projector in the back of the room.'

- 'It's important for the people to see others like themselves with concerns similar to their own.'

- 'With tape we can make whatever we don't have and think we need and try it out.'

- 'I can get my friend the doctor to use the tape camera because it's so easy and he can see it right away. Everyone can participate and everyone finds it exciting.'

Video Technology

It might be useful at this point to include a quick review of the unique advantages that videotape and video technology afford for the kinds of work we are describing.

At the most practical operational level, portable videotape equipment is simple, easy to maintain and operate, durable, and inexpensive. It is truly 'appropriate technology' – small-scale, manageable, effective, and suited to a wide range of uses.

Portable equipment can be managed by a novice, even by people who are unfamiliar with machines of any sort. With a minimum of training, virtually anyone can become self-sufficient in the use of both camera and recorder/playback units.

The tape itself never has to go to a laboratory for developing. It can be used over and over again. It is a forgiving medium that encourages informality, intimacy, and experimentation.

Even under adverse conditions – for example, in the dust of the Egyptian desert – the equipment can be maintained without great difficulty. Cameras can be adjusted to function in a wide range of natural light situations.

It is possible to achieve excellent quality – even in colour – with low-cost equipment. For example, $5,000 can buy an excellent black-and-white system including playback equipment; $10,000 can buy enough equipment for a ministry to share among several family planning clinics; $20,000 can provide enough colour equipment for a country like Tunisia to use throughout its family planning clinic system.

Videotape is a new kind of literacy tool. It provides a means for sharing ideas and experience over distance among people who neither read nor write. It puts in their hands a way of extending themselves, of sharing, that has simply never been possible before.

Videotape is highly accessible and manipulatable. Because there are no developing processes required, there is immediate access to material that has been recorded. And the access can be repeated at will, going back over material again and again so that people can deal with it at their own rates. This capability has made videotape an important adjunct in such areas as family therapy, role-playing and

simulation activities, sports and other skills-training situations.

In fact, videotape can open up new psychological experiences. For example, we seldom see *our* reactions to *other* people – we see their reactions to us all the time, but only rarely vice-versa. Having such sudden distance on ourselves makes us register the nice things about ourselves we might not otherwise acknowledge. Similarly, it allows us to take in things we don't like – for instance, about our style of speaking – at a comfortable rate, and to alter that style without the presence of a critic. In this sense, videotape provides a unique, extremely important, non-judgmental personal learning tool.

So we see that the significance of videotape is greater than its bare recording function might indicate. This is especially true when it comes to the arena of social action. Videotape enables people to share a visualisation of something directly. No intermediary experts, brokers, interpreters are required. The viewer has direct access to a meeting, a family decision-making session, a maternity-ward discussion, an event of any sort, without any intervening subjectivities filtering the experience for him in the way a newspaper reporter, teacher, TV newsman, or messenger would do. As a viewer, you can see what's actually happening, confront it, deal with it, integrate it for yourself. In short, you can trust it and act on it in a way you couldn't if you were dealing with someone else's pronouncements about what is happening.

Thus there can be enormous leverage for change exerted by a few ordinary people making a record, with videotape, of something as simple and as straightforward as a mutual discussion of their attitudes about a stressful subject. Their peers will have their own thinking/feeling reactions stimulated by exposure to the tape. The issues are thereby brought within their awareness, and they can more easily hear things they might normally be afraid of, such as information concerning new methods of farming, new concepts about family planning, or new attitudes toward co-operation between men and women.

A surprising amount of information can be communicated when it is offered in this non-directive manner.

The net effect of such processes can be to create in audiences a lively sense of excitement about the possibilities of human exchange and social change – that is, if they feel culturally and psychologically a part of what is happening on the videotape they are watching. This kind of video experience can then result in a person gaining new perspective about life's options, a fuller sense of himself, and possibly a new sense of mastery over his own life.

Recommendation

We strongly urge, on the basis of the experiences summarised here, that any communication strategy aimed at building understanding about development issues utilise what we call a 'full spectrum video' approach. This two-prong approach combines professional production and non-professional training in such a manner as to take full advantage of the special qualities inherent in videotape.

Professional production will create high-quality, colour videotape television material that is suitable for broadcast use in the country of origin and elsewhere. This tape can also be made widely available on videocassette for such non-broadcast uses as village meetings, seminars, small group discussions, classrooms, workshops, national and international conferences, teaching, and so on. In this form, the tape will be especially useful to development workers and change agents concerned with building understanding on specific issues. The tape will be of demonstrable benefit to policy planners, who can use it to gain a closer understanding of the needs and attitudes of their various constituencies. It can be used for scholarly purposes, as a source of qualitative, attitudinal data. The actual process of production and broadcast, in addition, will create contact and sharing between local development specialists and local communication specialists. These bridges will remain long after the specific tape is completed. Finally, the opportunity to share expertise with local broadcast engineers and crews can help to up-date in-country video and broadcast performance.

Falling at the other end of the spectrum is the training of non-professionals, and the supplying of narrow-tape portable videotape equipment for them to use on a continuous basis. This can be carried out on either a modest or a grand scale. In each case the training is short and the equipment relatively inexpensive.

Bear in mind that narrow-tape video has always been designed not for hobbyists but for professionals in fields other than video. The training provides such professionals with access to a powerful, practical, effective, appropriately-scaled communication tool. It leaves an in-country capability that is then available to extend the original work of the professional production but in smaller scale; to bring this communication process to bear on new subjects or issues; to apply the technology in new areas, such as

sharing information or skills among villages; or to develop imaginative new applications. The so-called 'ripple effect' can be enormous. And it will act to stimulate social change in the most healthy, stable manner possible – by promoting individual growth, widening personal horizons, and providing access to more information and more choices in an open, non-directive manner.

This two pronged strategy offers the best possible way of meeting serious communication needs quickly, creatively, effectively, appropriately. We feel it makes it possible to combine effective communication and education with a true respect for people and their abilities to grow and change. In this sense, the strategy represents a statement of values as well as a model for programmes. The combination, we believe, is the reason why the strategy has proved so successful for us in the past.

COMMUNICATIONS WITH RURAL PEOPLE

Mervat Shoukry

My basic argument is that change will not occur in any country, developed or developing, until the people change. I want to concentrate, however, on developing countries, particularly on those countries where the majority of the population are rural. Most strategies for change are not oriented to the cultural values, attitudes and behaviour of rural people. Another common weakness is that change and training strategies are not linked to specific countries.

Every development process should shape its strategies for change not only according to the natural resources and potentials of the country and its existing limitations but also according to the needs, skills and aspirations of the people. The success of the process depends, in part, on ensuring that it is co-ordinated towards popular participation and involvement.

A great deal of empirical research suggests that in the face of major social, education and economic problems, the most important question is how to generate a new strategy of communication. The strategies will have to facilitate the flow of information and overcome existing barriers of deeply entrenched perceptions, attitudes, norms and values.

Many scholars have argued that the main priorities are technology, huge capital investments, national industries and international trade. But these are meaningless without changes in people's attitudes and perceptions. People must be motivated to seek awareness, discovery and comprehension of, say, medical services, educational opportunities, agricultural innovations and economic programmes.

New organisations, new mechanical wonders, will seem irrelevant and distant unless there are fundamental changes in the social and behavioural dimensions of human action. The problems of rural populations are the product of planning processes that have continually ignored the basic needs and feelings of the rural masses.

The future of developing countries depends on the improvements in the standards of living and way of life of the rural masses. But until our communication approaches are more co-ordinated and comprehensive, and really tailored to the particular needs, understanding, skills, values and aspirations of the rural masses, these people will never move out of the vicious circle of poverty, disease and ignorance.

In other words, all the activities of the Ministries of Health, Education, Agriculture, Social Affairs and Housing will disappear down a blind alley unless they use communication to break through the rural masses' traditional feelings of exploitation, frustration, and passivity.

The fact should be underlined that these desired changes cannot occur overnight. Communication strategies will have to be devised, revised and continually evaluated. They must be capable of communicating accurately to the inner self of the rural peasant. They must generate an honest interaction between the planners of the development process and the masses who are meant to carry it out and share its benefits.

The relationship between communication technology and development can vary enormously. The technology may be useless, or even have an adverse effect, if it is not linked to planning that takes into account the real needs and aspirations of the rural masses, and the political and socio-economic goals of the country.

The media of communication are a powerful tool, but they are not the only tool. Other variables have to

be considered. Cultural and socio-economic variables are particularly important. Too often, the media have been blamed unjustly for failures that are due to these other management or socio-economic aspects.

The media should try to create in the rural people the ability to do something about their own problems. They should motivate them to seek the proper solutions. Only then will the rural people be persuaded to change their attitudes and behaviour in a positive way. Trained agents and local leaders should aim to develop an awareness of what it means to make decisions. The mass media should also motivate policy makers to initiate the necessary changes, to set up alternatives, to define what should be done and to go ahead and do it, to set up theories derived from human behaviour, to provide a base for responsible social action, and to establish a system by which the unification between theory and practice may be achieved.

As for the question of outside help, I have often noticed that whenever social or economic problems arise, there is a tendency to ask for more help from outside. People instinctively ask for more funds, more equipment, more training, more research. Isn't it preferable that each country should explore its own resources, maximize its own potential and develop its own capabilities? The best results have often been the outcome of self-reliance and self-help, and of a recognition that more is not always better.

One final suggestion: I believe that there should be an open exchange among developing countries of development-oriented communication projects that have been successfully implemented. The problems may seem to differ, but they are essentially held in common. With the necessary adaptions to each country's particular needs and capabilities, many projects would be applicable in more than one country.

DELIVERING SOCIAL SERVICES IN THE SUDAN

Ali Shummo

The idea of using communications media for delivering social services in developing countries depends above all on the availability of appropriate media and on their accessibility to individuals in the countries concerned. For several reasons the emphasis in this paper will be on the uses of the electronic media.

The very high rate of illiteracy means that the printed media is available to only a small portion of the population. Further, most countries lack the efficient transportation network that is necessary to enable the printed material to travel across the country and rapidly reach the reader. Thirdly, the resources for the production of printed communications (materials, equipment) are limited and in short supply. Finally, the systems of distribution at local level are often inefficient. These obstacles – and others – mean that the electronic media are the dominant and most available vehicles of communication. I should also mention that the paper will centre on delivery services that use the mass communication media, and will not cover person-to-person communication.

We all know that the electronic media are well established, in varying degrees, in the developing world. I do not know of a developing nation, that enjoys independence, which has no radio service. Television, too, has already set foot in most developing countries. Satellite Earth stations are becoming more and more attractive to governments and independent institutions, not because of the services they render to people, but because of their contribution to economic viability. This extra quality pushes them to the top of the priority list of development projects.

The presence of Earth stations and micro-wave networks, domestic or inter-regional, means that telex, telephones, radio and television services are all available. So the developing world has or can have all sorts of electronic communication services that could deliver messages to its inhabitants. Most developing nations use radio as the primary medium for this purpose because through it they can reach the largest number of people in the shortest possible time. Next comes television, but in most cases TV covers only the urban areas and is not accessible to certain classes of people.

Radio and TV stations in developing nations give special attention to programmes on health, education and other social matters. Their frequency and times differ from one country to another but, in general, they are all placed at the top of the list of important items. I have not been able to find statistics that are really comprehensive or references to support my views about communication delivery services in developing countries, particularly in the area of health and social programmes on the electronic media. I have therefore decided to take my own country, Sudan, as an example; I feel that most countries of the Third World resemble Sudan in these respects.

Sudan's only radio station, Radio Omdurman, is government-owned and operated and broadcasts to the nation through a number of short and medium wave transmitters. It has three simultaneous services in Arabic and other tribal languages directed to the Southern part of the country.

Radio Omdurman presents the following programmes on health and other social matters:

Programme Title	*Category*	*Duration*	*Letters received (weekly)*
Your health	Health Education	15 min. wkly.	2000
Nutrition	Health Education	15 min. wkly.	1000
From the Fruits of Religion	Drama	30 min. wkly.	
The Co-operatives	Social	15 min. twice wkly.	100
Play of the Week	Drama & Social	30 min. wkly.	80
People and Tunes	Social	60 min. wkly.	300
Youth Magazine	Social	30 min. wkly.	400
Family Magazine	Social	30 min. wkly.	500

These programmes make up 8.25 hours out of the 126 hours that are broadcast each week. They represent only 6½% of the total broadcast time, a figure which in my opinion needs to be revised and increased.

Television is somewhat different from radio in the way it presents its programmes to the viewers. It has a nationwide service and regional services in the Gezira and the Nile Provinces. The latter are regarded as rural development programmes and are aimed, respectively, at the farmers and railway workers who live there.

The health and social programmes on Sudan Television are as follows:

Programme Title	*Category*	*Duration*	*Letters received (weekly)*
Your Life	Health Education	40 min. wkly.	500 from the main station
Your Health	Health Education	40 min. wkly.	400 letters from the Gizera Station which covers three Provinces.
Panorama	Social	30 min. wkly.	100
Social Problems	Social	20 min. wkly.	200
Family Magazine	Social	45 min. wkly.	300
Street Talk	Social	30 min. wkly.	
The Youth	Social	30 min. wkly.	200

The total time of these social and health education TV programmes is 3.45 hours out of a total of 42 hours per week. This represents less than 10% of the whole transmission time. It is worth mentioning that television viewers are mainly middle-class residents of towns and cities, and are able to provide feedback not only through letters but also through the telephone and by regular participation in the programmes.

So the programmes are transmitted. What happens at the other end? Is it enough to have the carriers and the signal and to say that you have a communication delivery service, without considering whether the target audience has the means to pick up the service and make use of it? To answer this question, we must find out what is available and what is accessible.

Most developing nations use both short and medium wave radio transmitters to cover their national territory. Sometimes they use microwave links to connect the main capital stations with regional medium wave transmitters. In rare cases very remote local stations will use highly directional short wave transmitters. All these methods help to solve the reception problems of the vast areas to be covered, and the inefficiency of the low power transmitters and the unreliable short wave transmitters that were purchased before their unsuitability for the transmission of domestic services was understood.

Radio receivers, although relatively cheap, are still not widely spread, as the UNESCO statistics show. If we adopt UNESCO's estimate of five radio sets per hundred persons as the bare minimum, we can definitely say that the developing nations have inadequate means of information.

Television services are confined, in many of the developing nations, to the capital city and its vicinity, and in some cases to a few other major cities and towns. The sole beneficiaries are thus the inhabitants of the major cities and towns. This bias could widen the gap between the urban and rural population, instead of narrowing it, as other national policies may desire. It could encourage the rural population to migrate to the towns, to seek this and other privileges the town people enjoy, thereby causing environmental inconveniences and other social problems.

TV sets are very expensive. The average-income family can hardly afford one. Even if we take into account the concept of the extended family, which prevails in the developing world, the situation does not significantly change. TV clubs can help, but they cannot make up for having a private set at home. Repairs, spare parts and maintenance are also very difficult and expensive.

These facts of output and reception dominate the situation of communication delivery services in most developing nations. The big question is, how to improve it? If we leave the developing nations to improve themselves, they will not be able to succeed for some time. Their resources are too limited. In some cases, governments cannot give priority to facilities for communications delivery services unless they provide revenue (as do satellite Earth stations). Individuals will continue to have insufficient income to purchase a TV or radio set. If these facts are ignored, the gap between the developed and developing societies will widen and become harder to overcome.

We must keep in the forefront the possibilities of the developed countries giving aid and technical assistance to the Third World, and we must earmark special funding for the establishment and improvement of communication delivery facilities. I believe that international institutions such as the IIC are capable of convincing intergovernmental and international organisations and the industrialised countries to undertake this important human mission and contribute to the creation of a balanced and enlightened world.

It must be emphasised again that a developing nation must use the electronic media for communication delivery services if its population is to have access to its programme messages. We cannot separate the carrier from the target group, if we want to provide a basic and essential service to each individual. We cannot expect a change in societies to take place with the pace and effectiveness we wish to see unless we can communicate with our people.

CONTEMPORARY DILEMMAS IN THE TRANSFER OF COMMUNICATION TECHNOLOGY

Tomo Martelanc

Every developing country is bound to look for the most efficient, economic, and best suited communication network for its national purposes and development. Communication has acquired a strategic significance for social and economic progress. It plays an important role as a promoter, accelerator and catalyst of national development.

Technical development does not happen just like that. It can, and should, be turned into a controlled and planned process. The greater a country's need for efficient communication, the greater the need for such planning. The importance and dimensions of a delivery system, as well as its structure and basic design, depend on many factors. The main ones undoubtedly are:

(a) a definition of the social, economic and political goals of a country within its socio-political system;

(b) a definition of the communication policy, which should be coherent, integral and long-term; and

(c) a demarcation of the policy of technological development in communication.

I should like to limit my contribution to this last issue. It seems that a policy of technological development has to take into account at least these aspects:

(i) a design for the most suitable, efficient and economical technology in the given conditions;

(ii) an optimum programme for adopting a mix of traditional and domestic resources and of foreign, imported technology;

(iii) an adoption of policy on the transfer of technology;

(iv) the manpower, and training, that are required;

(v) an operational plan and proposed measures for the realisation of the defined policy.

Contemporary technology in communication is highly complex and sophisticated. No country, not even a developed one, can develop and amplify its communications isolated from the international achievements of science and technology. This need is even more pronounced in the case of developing countries.

The technological gap between developed and developing countries, well-known for its economic aspects, is perhaps even more apparent in structural matters. The uneveness of technological development has brought about manifest differences and sometimes extreme polarization between the 'haves' and 'have-nots', rich and poor, developed and underdeveloped countries. Those countries with generally lower social and economic standards, and a correspondingly less developed communication infrastructure, are forced to import technology. Inevitably they become dependent upon the countries that supply the technology.

Throughout the world there is an enormous volume of knowledge. But it is unevenly distributed. Four-fifths is located in the developed and a few developing countries. They originate 90% of all transfers of international technology.

The international transfer of technology is a fundamental trait of the contemporary world and a basic prerequisite for development and progress in every country, be it developed or developing. It is characterised by some indisputable facts. It is rather easy to transfer technological know-how from one country to another, and this kind of transfer is rapidly gaining momentum. The international transfer of technology provides developing countries with their main channels and access to the products of science and technology. Developing countries are mainly importing the results of research. Imported know-how is a major factor in the construction of a modern communication network and its further development.

There is a large gap between the industrially highly developed and the developing countries because scientific research and the development of technology is concentrated in the former. The international transfer of technology is carried out primarily in the market-place on the basis of trade. Typically, the market is 'imperfect'; usually, a monopoly market with a high degree of economic power vested in individual countries. Technology is usually highly complicated and diverse. Yet importers usually do not avail themselves with appropriate information either on the range of equipment or on the advantages of different kinds.

Technological information is treated gingerly; it is often protected by patents. The exporters set the price, which depends to a large extent on the negotiating positions of the seller and the buyer. It is not easy to establish the costs of technology transfer and purchase. Besides the visible elements of the price (e.g., patents, licenses), there are many invisible, hidden elements (e.g., the purchase of equipment, spare-parts, software) and they may add considerably to the costs of technology imports.

There may be other strings attached to the sale of technology, and there are often limiting factors contained in the contracts, all of which add up to major constraints on the importers. Several UNCTAD studies have revealed the most frequent limitations on technology transfer.

They include 'package deals' that demand the compulsory purchase of other products alongside the

requested one; restrictions on the export of products that are manufactured by means of the purchased technology; restrictions on the freedom to purchase manufacturing components and competitive technologies; demands for guarantees that custom duties and exchange rates will not be changed; restrictions in terms of both foreign and domestic competition; limitations on the development of domestic technical facilities and scientific and research activities; the compulsory sale to the exporter of materials produced by the purchased technology at prices below world levels.

The international technology market has become a huge business. It is dominated by transnational companies that are active all over the world. Their economic strength enables them to exert powerful influences on importers. Sometimes they gain control over them and their activities.

Within this framework it is clear that developing countries are in a far less favourable position than developed countries. The prevailing circumstances in the international market of technology transfer means that the implementation of foreign technology in importing countries, particularly in the developing ones, seldom brings about optimal results. It has been confirmed by many studies that the effect of the transfer of technology depends on many factors like the size and pattern of demand, the effect of domestic research and technological capacities and abilities, the ability to select the appropriate technology, the aptitude to adapt new technology to national needs, the capability of the local manpower, etc.

The success of an imported technology depends to a large extent on the way the technology is acquired, adjusted and absorbed.In their struggle for accelerated social and economical development, developing countries have to resort to foreign technological aid, to imported know-how, to more sophisticated equipment than that they can produce by their own resources. Imported technology, however, is very often not suited to the importing country. Among other things, a transferred technology requires a correspondingly efficient use of manpower and an adequate organisation of the communication process. Even the most modern technology, if unfittingly transplanted, may be economically ineffective. The costs of implementing imported technology may be far bigger in the developing countries than in the industrially advanced countries.

To extract the greatest possible benefits from imported technology it is not enough to purchase the best available, the most modern technology. It is important to ensure that the technology harmonises with the social, economic, and communication development aims of the importing country. The developing countries need, in this respect, a systematic, comprehensive and long-term policy of technology transfer, and this should be closely connected and co-ordinated with their own policy of national development. International technology transfer is a basic component of national communication policy.

On the other hand, to rely entirely on the import of foreign know-how may prove to be detrimental to the progress of a developing country and in the long run, impede development. There is a growing awareness in the developing world itself that, alongside the imports of alien technology, there is an essential need for indigenous endeavours in scientific and technological research. A realistic portrayal of the long-term future seems to suggest a mix of imported and domestic technology, of modern and traditional ways of communication.

To sum up: the existing gap between technology-rich and technology-poor countries is still widening despite extensive endeavours to promote the internationl transfer of technology. A series of factors are responsible for that, and they (to quote John Craig from the University of Denver) include:

- widening economic inequalities and increasing shortages of available capital;
- the growing complexity and cost of modern technology;
- the growing quantity of technological knowledge and the high cost of information systems;
- lack of effective technical-economic infrastructures in many countries – the pipeline through which technical knowledge flows and is utilised;
- lack of modern technological traditions, value structures and social orientation toward modern technology and its change effects;
- over-optimism about the benefits of research in technological development;
- poor planning and managerial capabilities, resulting in the ineffective allocation of human and material resources;
- inappropriate educational policies.

Such a long list of unresolved problems might seem pessimistic. Nevertheless, it is an indisputable fact that in the future international technology transfer will continue to be indispensable. No country can really afford an extensive modernisation of its communication system without acquiring internationally available know-how. Therefore, the role and significance of international technology transfer will increase.

But these issues and their difficulties point out very clearly that the future of technology transfer is in the quest for new methods and ways, new relations and solutions. What is claimed in the context of the new international social and economic order requires a new approach in technology transfer. And the new international communication order demands a new approach to the problems of delivery services in the developing part of the world.

LOW-COST COMMUNITY BROADCASTING IN DEVELOPING COUNTRIES

Richmond Postgate and Peter M. Lewis

In this paper we bring together three ideas – 'appropriate' (or 'intermediate') technology, community broadcasting and distance learning systems. Although not in themselves new, in the sense that they have been discussed and applied elsewhere for some years, perhaps these ideas have not been thought of having elements in common, which overlap, and which should form the basis of a systematic approach to Third World communications policy. These ideas and their common themes also have implications for developed countries – in fact, for the international community as a whole. We want to question the appropriateness of conventional, nationally-based, professionally-staffed broadcasting systems for satisfying local needs. We want to suggest that the relationship with a community that is possible in the small station of the kind we shall describe serves important social purposes that conventional broadcasting can never satisfy. We also want to invite reflection on the distinguishing characteristics of the local radio and television sector in matters of finance; staffing;control structures; technical standards; the degree of public participation in production, in decision making, in research, etc; its relationship with the national system; the likely future growth of the sector; and so on. Third, we want to point out the important role of local stations in the realisation of national policies for education and development, particularly in Third World countries. Both these aspects of local radio have implications for the communications policies of Third World countries, and for frequency allocation.

Appropriate Technology

The concept of appropriate technology derives from the book *Small is Beautiful* by E.F. Schumacher, who coined the term 'intermediate technology' and founded the Intermediate Technology Development Group (London). The Group describes its purpose as 'the application of twentieth century skills and expert knowledge to develop processes, and techniques, methods and materials, that are appropriate to the needs and resources of people, especially those living in rural and small-town areas; technologies that are relatively small-scale, simple to operate and maintain, and with the emphasis on capital-saving rather than labour-saving. The aim is to improve the way of life of people in rural areas, to expand their interests and to help them solve their own problems.'

Clearly the concept involves much more than technology. For one thing, it must include a whole infrastructure of training and development to give communities the confidence and will to change and exert more control over their own lives. The recent energy shortages and economic recession has taught all countries the same lesson. Technological over-kill, unnecessary consumption, waste and pollution are conspicuous features of most environments. The proponents of intermediate technology have always recognised that the concept is equally useful in enabling developed countries to question the appropriateness of their own systems and technologies.

We want to ask: Does the concept of appropriate technology (in the broad sense we have indicated) have application in a broadcasting context? Can we speak of appropriate engineering standards, appropriate bureaucracy and appropriate professionalism – the implication being that in conventional broadcasting systems these features have got out of hand?

Community Broadcasting

There is considerable ambiguity about the application of the term, 'community broadcasting.' At this stage we do not want to be too rigid about applying or witholding the description 'community.' We take

it to indicate a considerable degree of involvement by a local community in local radio or television.

In many countries with established national broadcasting systems, there has been in the last decade an increased emphasis on local broadcasting, whether to complement and extend national systems, as in Britain, the Netherlands and Sweden, or as an alternative to the national system. Sometimes this trend has developed with the official encouragement of the regulatory authority, as in Canada and Australia; or it has been tolerated, as in the USA; or at first resisted, as in Italy, where now however 'free' radio is constitutionally recognised.

The terminology varies. In Britain, the Netherlands and Sweden 'local radio' stations are part of the national system. In these and other European countries the phrase 'community radio and television' has been taken from North America to indicate independent, autonomous, non-profit stations (cable or broadcast), as well as non-transmitted video. In Australia, 'public broadcasting' refers to stations distinct from the commercial and ABC stations, and was described by the 1976 Green Report as those stations 'operated by non-profit organisations and licenced to seve a defined or special interest section of the population.' The Italian local stations are called 'free' (radio) or 'independent' (television). The majority are commercial in operation and motivation; many of the remainder are answerable to communities of interest (e.g., political or ideological groups).

The technology needed for small-scale radio has been to hand since the invention and spread of the cheap transistor and of light-weight, mobile recording equipment. But the low priority given to radio, owing to the attraction of television, resulted in the comparatively late development of local radio. There are exceptions: as long ago as 1967 the Report of the Chandler Commission in India advocated local radio as the key feature of national development; and many Latin American countries have radio schools, often organised by churches. Small-scale television became possible in technological terms with the development of VTR portapak units and time-base correctors.

In passing, if we compare these developments with the various broadcasting situations, we find a paradox. Technology has brought broadcasting within the range of the budgets and skills available to small communities. But the professional assumptions underpinning broadcast technical standards, and adopted nationally and internationally, create a dynamic which tends towards ever higher standards of both technical matters and production values. These standards call for high-cost, sophisticated equipment, which implies a minimum capital cost per station, entailing a considerable reliance on network programming and a service area large enough to justify the station's existence or make a profit. The resulting service area may be too large to allow a station adequately to reflect the needs of small communities within it. An element of this vicious circle, in many Western countries, is the professionals' fear of unemployment which commits their unions to support the status quo and resist change.

Returning to the small community station, perhaps its most important feature, apart from its low-cost technology, is the nature of its staffing, its reliance on volunteers and its consequent relationship with the community. The staff are typically small in number and flexible in role. Their main purpose is to facilitate the use of communication resources by the community. They have qualifications and motivations different from those normally associated with most broadcast professionals. They do not think, in the words of an Italian radio worker, 'that communication is finished in the radio station: there are a lot of connections with other things'. In this, they are clearly similar to many educational broadcasters. Both educational and community broadcasters would be unwilling to consider a programme as the end-product or their raison d'etre. It is, rather, one element in a co-operative effort resulting in successful communication. For community broadcasters the content of that communication is determined by the rhythms and perceptions of the local community, not by network broadcast schedules, sales considerations or national syllabuses.

We must note that this style of relationship with the community has involved new groups in broadcasting – young people, women, ethnic minorities, those with little or no formal educational qualifications – enabling them to communicate within their community, whether rural or urban, and resulting in marked increases in personal and communal confidence. Such confidence encourages the articulation of needs by the communities themselves and spills over into many other areas of activity. Many community stations are controlled by self-management structures which involve station staff, volunteers and viewers/listeners in decision-making about policy and programming – another feature which enhances self-confidence.

Distance Learning

Distance learning is another major development of recent years. It depends on several factors: the close association of research with programme-making; integration through teamwork of media used; and the harmonising of the product with the activity of individual group learning, supported by such tutorial and

mutual assistance as can be built into the system. The UK Open University is well-known, and the varied applications of its approach have been well documented. The US Children's Television Workshop, the Adult Literacy Project in Britain and India's SITE are examples of the kind of integration of programming, research and utilisation which are the hallmarks of what one might call 'purposive broadcasting'.

These three ideas can be synthesised, bringing out the significance of what we have called their 'overlap'. Appropriate technology leads us to question the suitability of traditional, large-scale systems and technology, and puts a premium on low-cost solutions which maximise the potential of local resources, human and physical. Community broadcasting, by a different route – a disenchantment with professional overkill, the neglect of local needs by national systems – arrives also at low-cost technology as an alternative, and adds a significant reliance on the lay community; in extreme cases, it is, in effect, 'self-help broadcasting'. The distance learning experience allows us to introduce a disciplining note: it offers a framework into which can be fitted (a) the exploration and articulation of local needs; (b) a system of local control and accountability which ensures that broadcast programming is constantly attuned to local response; and (c) the integration of various community initiatives whose reach can be improved by broadcasting, and whose fieldwork in turn makes the broadcast message more effective.

Implications for Third World Countries

If we look at the broadcasting models usually offered to Third World countries, we find they are characterised by

- the high technology normally associated with large-scale national systems.
- high professional standards and assumptions that look down on and discourage community participation in policy, programme-making and the formulation of research issues.
- infrastructures of staffing, skills and maintenance which make heavy (if not impossible) demands on the human and technical resources available.
- working practices derived from the 'parent' systems that are in conflict with developmental objectives; for instance, commercial advertising may encourage the consumption of foreign goods, and an imitation of foreign lifestyles, which may lead eventually to import imbalance. Or public service models may create expectations of a degree of freedom of action from government that is not always aceeptable to the central authority.
- costs so high that universal coverage is unattainable. The choice then is either not to have the system at all, or to provide it in a part of the country only, which invariably discriminates in favour of urban and against rural populations.

By contrast, the experience which derives from our synthesis suggests certain propositions of relevance to Third World countries.

- the engineering and technology required for broadcasting need not be as costly as would appear from the present standards in many developed countries.
- simplified and less costly equipment can be manufactured within Third World countries.
- as all national development plans include a broadcasting component, low-cost local broadcasting stations should be seen as an essential complement to national systems. For they allow centrally planned messages to be modified or added to as the local community feels appropriate, and provide the opportunity for local expression, the satisfaction of local needs, locally defined, the celebration of local life and values and the stimulation of voluntary co-operative activity in support of development.
- if broadcasting is no longer viewed as the exclusive preserve of broadcasting professionals, a much wider range of people can become involved. Provided that there is a (mobile) core of qualified staff, the skills needed for operating stations and producing programmes can be found among the lay population. In the present prospect of semi-permanent unemployment, particularly among young people, this has important implications for 'job creation'.
- when costs are lower, many more stations can be set up. Consequently, more frequencies will have to be allocated, and regulations made about transmitter power.

A question remains about the place in a national development plan for the kind of local, relatively

autonomous station we have described: is such community self-help compatible with the centralised planning which broadcasting has always been thought to require?

Our answer is two-fold. First, it is time to find out. Second, models and parallels exist which justify the attempt to find out, at least on a pilot basis. Self-help is seen as desirable in many other spheres of development; why not also in broadcasting? Certainly frequencies have to be nationally assigned; and the national distribution of some centrally planned messages makes political and economic sense. But there is no reason why there should not also be room for a considerable proportion of local origination. And only a measure of local input is likely to make the central messages effective and stimulate the voluntary, co-operative activity on which they depend.

Implications for Frequency Allocation

If the needs of small communities are recognised in the way we suggest they should be, there are important implications for frequency allocation, allotment and assignment. Governments may decide either to extend the national systems to bring local broadcasting to most of the population (the likely future of Britain), or to discriminate positively in favour of certain urban minorities or localities, or of rural populations. A third possibility is that governments may decide to permit self-help on a local basis.

Any of these strategies would involve an increased demand for frequencies. The VHF are the most convenient source; but another solution would be to encourage more flexible arrangements permitting use on a non-interference basis of medium-wave frequencies alloted to other countries.

Finally, WARC 1979. Only national delegations are entitled to attend this Conference, so, if the points of view of the smaller, non-institutional claimants for frequency space are to be adequately presented (and the developments described in this paper reflected), it is essential that national delegations should now take pains to invite and study the views and needs of these claimants so that they may be incorporated in the submissions made to WARC 1979.

4. INTERNATIONAL BROADCASTING

Broadcasting to other countries is one of the major traditions of electronic communications and one which has a special relationship between governments, broadcasters and audiences.

The author of this paper, Gerald Mansell, has been Managing Director of the BBC's External Broadcasting Services since 1972.

INFORMATION WITHOUT FRONTIERS

Gerald Mansell

What do international broadcasters think they are doing? What are their objectives? What is the impact of their activities? And how much attention is the world paying to what they say? After all, the vast expenditure involved, particularly on the part of the major international broadcasters like the USSR and the USA – and the Chinese – must be to some extent justified. The authorities of the countries concerned, particularly their Finance Ministries, will want some kind of result, not necessarily quantifiable or tangible, but at least definable.

A lot of international broadcasting can be said to take place because others do it. It is an intensely competitive activity. But it is also connected with ideology, with national prestige, with the furtherance of what a nation conceives to be its national interest, with the picture it wants to give itself. Conversely, in most cases, it has little to do with entertainment or education, or even, in the true sense of the word, with information, although there are honourable exceptions of which I hope the BBC is one. For the most part, there is an ulterior motive. What we have to assess is the quality of those motives.

We have to distinguish between the overt motives, as they are displayed to listeners, and the true motives, which are not necessarily stated. John Reith's motives when he launched what was called the Empire Service of the BBC in 1932 – the first regular shortwave service in the world – was no less intensely thought out and purposive than any of his other broadcasting enterprises. As well as a great visionary and a great egocentrist, Lord Reith was, I think it's right to say, a great public servant. By that I mean that he had a clear concept of the public good, and he regarded the Empire Service as something that was for the public good, something to be recognised as a great cause as it would be understood at that time.

Reith got precious little encouragement from the British government of the day, for all sorts of good and bad reasons, as is usually the case with governments. He did manage, however, to start the service and to begin a tradition which by and large is reputable and above-board and has continued to be recognised as such.

The recipients, wherever they might be, could listen without suspecting that someone was trying to bend their minds, to tell them what to think about. What Reith was trying to do was to make the best of public service broadcasting, as conceived in Britain at that time, available to all English-speaking people. That could have been thought to be arrogant. Reith was a man of what today would be called arrogant conviction. He did have quality, however, and his motives were reputable and on the side of the good things of the human spirit.

Then there came the war. The Russians had been broadcasting abroad since the 1917 Revolution, though not on shortwave in the early stages. It was Lenin who said that radio was a newspaper without printing presses, and without frontiers, and that's where I took my title from. For him and for all his successors the motive was the dissemination of Marxist ideology, the spread of world revolution. It was plain proselytising, plain political agitation. But it never really worked very well.

The Russians are still the biggest purveyors of broadcast information in the world. They have probably spent more, if rather ineffectively, on trying to sell their own ideology and stopping their own people from falling victim to the blandishments of Western radio services than the combined efforts of all those services themselves.

It seems unlikely that much of the time they succeed in doing anything more than preaching to the converted. But an ideology which laid such great stress on propaganda and proselytism, on political agitation and every form of persuasion, as one of its fundamental imperatives, could hardly be expected not to try to make the maximum use of radio, however doubtful the returns. The current massive effort is 2,000 hours a week, in over 80 languages. Some of these languages are not even the official languages

of the countries concerned. They are languages of under-privileged minorities with discontents and resentments that might one day be fanned into a useful blaze. At least I assume that is the hopeful argument in the remote corners of propaganda ministries and the corridors of Moscow Radio and Radio Peace and Progress.

I am not saying, however, that the Soviet effort is to be underestimated. It is technically potent and powerful and world wide. In programme terms, it has become a great deal more skilful. Its capacity for concentrating effort on one target at short notice is remarkable. The BBC did a study recently of the broadcast schedules of communist radio services in Portugese during the upheaval in Portugal in 1974-75. It was interesting to see that there was quite clearly a concerted and massive increase in the Portugese output of all East European radio services. The scheduling of each increase furthermore, was carefully co-ordinated to ensure no overlaps but rather a continuous stream of Communist output in Portugese from one station or another. As soon as one stopped another took over.

That this huge, carefully planned effort did not greatly affect the outcome raises interesting questions about the true nature of the impact of radio in situations of this kind. Some believe radio can be used as a tactical weapon, laying down a barrage on a selected target, in the hope of achieving a sort of softening up. It is a temptation into which both politicians and propagandists tend to fall.

I remember the UK government asking the BBC greatly to increase its output in Arabic after Suez in 1956 – which was rather closing the gate after the horse had bolted. As a measure intended to achieve immediate results, a substitute for the failure of military action, it was crude and doomed to failure. As was also the massive increase in the Voice of America's Vietnamese output in the dying days of Saigon. Both these instances, like the Communist effort on Portugal, stemmed from a misreading of the true function and power of radio, from a mistaken view of the nature of its influence. It stemmed also from the mistaken view that external broadcasting is for bending minds, which implies a fundamental contempt for the human mind and the human spirit. We are back at the question of motives. As in all human affairs, you pay the price for getting your motives wrong.

But I must get back to the main thread of my argument. The Second World War saw the most effective and massive development of external broadcasting by the BBC. The Germans used it equally massively, following the principle of the 'Big Lie'.

The BBC's effort started before the beginning of the war, early in 1938, when the British government asked the BBC to start broadcasting in Arabic to the Middle East and in Spanish and Portugese to Latin America. That was a direct response to the broadcasting effort of the Axis powers to those areas. But by that time BBC External Broadcasting traditions were well established. I think we were very fortunate. And we were equally fortunate later when our services to Europe were born and developed.

The UK had only one broadcasting tradition, one national organisation with a monopoly. The relationship of broadcasting to government had been set in a certain mould, and there was no real disposition on the part of government to break that mould, to seize control of broadcasting for its own purposes. There was a readiness (limited, it is true, by the requirements of national security) to put faith in truth and honesty. As a result, in the words of Goebbels, who was the main proponent of the principle of the 'Big Lie' there took place 'The international invasion of Europe by British radio'.

I mention this 'invasion' not only because it is a proper cause for pride but principally because it is relevant to the question of motives. There was probably never a time when the true nature of the conflict in which mankind is involved seemed clearer. This awareness brought out the best in those who were engaged in the task of propagating the ideas and beliefs of the Allied side in general and of Britain in particular. There was idealism as well as tactics, conviction as well as skill. Indeed, the skill would not have meant anything without the conviction. Goebbels had the skills, all right, but they were not enough. That difference raises the question whether propaganda as such, in its pejorative sense, can ever really work when it is running against the facts and against the deep feelings and beliefs of the intended recipients.

Since then, there has been the post-war communications explosion. The conventional wisdom among television people, and in developed countries in general, is that the world communications explosion is to do principally with the development of television. Of course, television is an important element. But consider the facts. Consider, for instance, the rate of growth of radio set ownership in the world. The numbers quadrupled from 237 million in 1955 to over a thousand million in 1975.

Nearly one set for every three of the world's population. Twenty years ago more than two-thirds of the world's radio sets were still to be found in North America and Western Europe. Now the balance is changing, and the rate of increase in Third World countries has been startling.

There were two million in the Middle East in 1955, but there are nearly 30 million today. In India there were one million in 1955, 24 million in 1975. In China (PR) one million in 1955, and 60 million in 1975. In Black Africa 360,000 in 1955, and over 18 million in 1975. China today produces about 10 million radio receivers per every year, and half of these can receive on shortwave.

These figures prove conclusively that whatever fears radio people in Western Europe and elsewhere in the developed world may have had about their future, in the remaining two-thirds of the world radio remains and, in my view, will remain at least till the end of the century, the main medium of broadcast communication.

That truth becomes even more startlingly obvious if the figures I have just quoted are compared with the corresponding figures for the ownership of television sets. The number of television sets all over the world was only just under 400 million in 1975, and over half of those were in Western Europe and North America. The figure for radio sets was 1,000 million. In Black Africa in 1975 there were 600,000 television receivers against over 18,000,000 radio sets; in India 300,000 television sets against 24,000,000 radios; in China (PR) 750,000 against 60,000,000; in the Middle East 6,000,000 against 30,000,000.

In most Third World countries the rate of growth of television set ownership remains very slow compared with what took place in Western Europe, North America and Japan in the decade between 1965 and 1975. In Japan, for instance, the number more than doubled in those few years and in 1975 was 42,000,000, more than in the whole of Latin America, the Middle East, Africa, the rest of Asia and Australasia.

The rapid spread of the transistor to the villages of Africa and Asia has brought about a transformation as important, outside Europe and America, as the simultaneous and rapid development of television has been to the wealthy third of the world.

Perhaps it has been even more significant. The millions in Africa, Asia and Latin America, many of them illiterate, were acquiring their first receiver often as a status symbol, always as an enormously prized possession. In terms of their awareness of the outside world, and access to it, they were suddenly thrust forward from the Iron Age into the most advanced communications technology. For the first time their horizons leaped outwards from the narrow confines of their village or district to the far ends of the world.

The uses to which they rapidly learned to put their radios, in order to gain information about what was going on in their own countries and in the rest of the world, showed the power that access to news could have. It was shown startlingly, for instance, during the Bengali fight for independence in 1971, during the recent Indian emergency, and in Pakistan during the months of internal conflict in early 1977.

Even more startling and conspicuous are the experiences of the closed societies of Eastern Europe. The reception of foreign radio services has been, on a massive scale, the means whereby those societies have had access to world news, to the ideas and achievements of free societies and even to information denied them about developments in their own countries.

A vivid but striking instance took place a year or two ago when a group of independent artists in Moscow decided to organise an exhibition of their works in the open air in a park on the outskirts of Moscow. How were they to make their intention known to those who might be interested? They used the simple device of telling foreign correspondents in Moscow, who reported back to their newspapers and news agencies, with the result that the news was included in broadcasts to Russia from the West. So thousands of people turned up at the Izmailovo Park to see the exhibition, as they had done years before at Boris Pasternak's funeral in a remote country village simply because the time and place had been announced by the BBC and others. A similar case is that of the Soviet biologist, Zhores Medvedev, who in *A Question of Madness* describes how on returning home after being released from a psychiatric hospital as a result of international pressure, he switched on the BBC Russian Service and heard news of his release and a commentary after the news analysing the implications.

These events do not deny that television, where it has come to full maturity, is important. But they do point to the fact that there has been a parallel development that is equally important but often ignored. To the three or four million people who listen to the BBC Russian Service every day in the Soviet Union, to the probably even larger number who listen to the Voice of America, the conversation on the trains to work in the morning, though guarded, is not about what they saw on Soviet television but about what they heard in the previous night's broadcasts from London or Washington. Victor Sokolov wrote in the 12th number of the magazine *Kontinent:* 'In the evening we hear news you can't find in *Pravda* (or if you do find it, it is in an unrecognisable form) and next morning on the way to work, in the metro or trolleybus, we look for that news in vain – and then at work tell our colleagues about it . . .' He went on: 'We have to fill up the time somehow. It's all right for the women. They have their own problems –

where they are selling what, who is wearing what. But what are the men to talk about? There aren't good football matches every day. So they discuss events in Portugal – not from information in *Pravda* but from words heard from the VOA or the BBC. They discuss the latest statement by Solzhenitsyn or Sakharov. And then in the evening, in their own circle of friends, they pass on what they heard themselves on the radio, or what their colleagues have heard. *That's* how the mechanism of the perpetum mobile of information from the free West works'. This glimpse of what deprivation means and how you get round it, together with the multitude of anecdotes, some amusing and vivid, some profoundly moving, are the small touches of colour that make up the total picture of the impact of external broadcasts on Soviet society. Make no mistake about it, if you believe in the power of ideas then that impact is bound to be significant in the long run. And much the same can be said of other communities similarly deprived and at odds with the authorities of their country.

Some months ago I spent a day at Recife in North East Brazil. I met two of the local bishops who were engaged, as is much of the Catholic Church in Brazil, in seeking to defend the poor and underprivileged against the arbitrary measures of the local authorities. Their Archbishop is Dom Helder Camara, whose name cannot be mentioned in the Brazilian media, by order of the government. They and many others were regular listeners to the BBC Brazilian Service, which was sometimes the first to give news of what had happened to their fellow priests. They were amazed at our ability to obtain such information and regarded the BBC Brazilian Service as a lifeline. We caused much official annoyance in Brazil by reporting not only the visit of Archbishop Helder Camara to Britain to receive an international prize but also the speeches that were made on that occasion.

It is a fact that though the movement of information and ideas across the world has never been easier in practical, technical terms, the number of countries where the authorities seek to restrict that movement is growing year by year. Hundreds of millions of people, from the favellas of Rio de Janeiro and the slums of Manila to the workers' flats of Moscow, are able to see man's first steps on the moon. But they are denied access to dependable and comprehensive news, and are subjected to versions of events which are often distorted for reasons of political or ideological convenience. In 80% of the world – or, put a different way, in four-fifths of the member countries of the United Nations – the printed and electronic media are under some form of political control or censorship. They often have neither the skills nor the resources, nor the opportunity, to produce a professionally adequate service of news and background untainted, either through commission or omission, by consideration of political convenience. In many such countries the business of reporting is becoming increasingly hazardous, if not impossible, through the arrest of stringers, the expulsion of correspondents, or the denial of visas and work permits. Only three of the countries of Latin America allow a relatively complete freedom of the press and broadcasting. In East and Central Africa only one broadcasting station and two newspapers are not run by governments.

It was being said only a year or two ago that there was no free press to speak of between Tokyo and Athens. Recent developments in India have, fortunately, invalidated that statement, while Sri Lanka was, somewhat unfairly, overlooked.

We are not therefore faced with a situation in which a contented world can contemplate on its television screens the miracles of communication that engineers have made possible. Rival television organisations bargain with the organisers of the Olympic Games for the right to enable hundreds of millions to watch international athletes competing night after night. But where much of common humanity is concerned the light of freedom flickers dimly when it comes to the vital need, and indeed the right, of every individual to free access to information. Meanwhile the development of external broadcasting by the nations of the world, the small ones as well as the large ones, is unanimous. I have already mentioned the Soviet Union's massive 2,000 hours a week. The United States run neck and neck with the Soviet Union. Indeed, both have quadrupled their effort in the last quarter of a century. The Warsaw Pact countries, if taken together, follow close behind. The Chinese are steadily increasing their effort and now broadcast over 1,400 hours a week in well over 40 languages, compared to only 60 hours a week twenty five years ago. A long way behind come the Federal Republic of Germany and the BBC, and immediately behind them come Egypt, Albania, and now North Korea, which has very greatly increased its output in the past year.

As was recently noted by Professor Phillips Davison of Columbia University, these figures suggest that communicating with publics as well as with governments in other countries has increasingly been recognised as one of the functions of diplomacy. The important issue, it seems to me, is the relationship that is worked out in each country between the objectives of diplomacy and those of the international broadcasters. In many countries the broadcasters are the direct servants of the diplomats, or of those who define the country's national objectives in foreign policy.

They are the servants and propagators of ideologies, in Communist countries. Elsewhere, and more simply, they are attempting with varying degrees of success to give their country, its policies, its leaders,

a good name. Often they work against tremendous odds. I remember a senior South African government official who was about to take over a top job in the Information Ministry asking how South Africa's image could be improved. I told him I thought his task was rather like that of an advertising consultant who is asked to increase the sales of a brand of soap that is widely known not to remove dirt effectively. Broadcasting cannot be a substitute for bad policies nor, indeed, can it do much about them. Its short term impact, save where it is the vehicle for dramatically important news, is probably negligible. Suddenly starting a barrage of broadcasting to the white population of Rhodesia to persuade them to be more accommodating may seem attractive to some governments, just as Communist countries thought it desirable to boost their effort in Portugese in order to sway matters there in the desired direction in 1975. But it is not likely to lead to the desired result if the sense of the situation as perceived by the people concerned does not lead them in that direction in the first place.

It may be true, as Professor Phillips Davison has written, that 'it would be difficult to prove that communications from a government to a foreign public had no effect on international relations, and common sense and the subjective impressions of large numbers of diplomatic personnel suggest that they do. And if one considers national objectives that are less political in nature – for instance, encouraging tourism and promoting trade and investment – then international information can indeed be an effective tool. Furthermore, in an age when disputes between major powers are likely to arouse anxiety throughout the world community, attentive publics in all countries expect to be informed about the policies of other governments.'

This is a true and very perceptive analysis. It does support my own view, which is in fact the traditional BBC view, that the impact of international broadcasting is essentially diffuse and not direct and immediate. International broadcasting tends to affect the climate of opinion in which politicians make their decisions, rather than the decision-makers themselves. There can be little doubt that many countries' national media tend in their news policies towards parochialism, leaving unfilled a great gap of knowledge about the affairs of the wider world. News editors tend to become most interested in developments in other countries when there are dramatic events like revolutions or earthquakes. This bias creates a picture of the world as a place where other people indulge in dramatic and violent activities, or are struck by natural disasters. It does not foster a continuing understanding either of other countries or of the true significance of world events.

How many people realised before 1973 or 1974 that the world's supply of oil was not inexhaustible, and how many people realised what power would one day be wielded by the oil suppliers? Not many, judging by the fact that in 1970 a British, government-appointed, committee took the view that the Persian Gulf was no longer of importance and that the BBC External Services need no longer broadcast to that area. Fortunately, the recommendations were ignored.

The BBC has become increasingly convinced that one of the greatest services it can perform is to provide a reliable day-by-day account of what is taking place in the world, and to do so in a world perspective. It sees this aim as being very necessary, and one which is arguably to the benefit of Britain's own long-term national interest as a trading nation with a vested interest in peace and sanity.

We are supported in that belief by the study of the reactions and views of our listeners, whether they be highly-placed and influential or, as so many of them are, ordinary people. Indeed, it would be surprising if this were not so. One of our German listeners put it rather well in a letter when he described external broadcasting as 'The opening up of new horizons on a world wide scale, the calling forth of questions, and the making of new links in many directions.'

What I think strikes anyone who has been engaged in international broadcasting over a prolonged period of time is the extraordinary thirst for knowledge and understanding which exists all over the world, and the innate intelligence and ability of the vast majority of listeners to take in information and to form their own view. We tend to see our activity not as an arm of diplomacy – not infrequently the imperatives under which we operate bring us into conflict with diplomacy – but as an information activity that is valid in its own right. It is a contribution, if you like, to the very necessary task of promoting understanding in the very tense and troubled world in which we live.

5. COMMUNICATIONS POLICIES AND STRUCTURES

Media ownership takes many different forms in different societies, and each form may be judged by different standards. But the increasing concentration and cross-ownership of media, and the number of services that can cross national boundaries, has led to discussions, investigations, and some regulations of the various forms. In most cases, a major theme is the relationship between the public and private sectors, and the nature of communication organisation as a private, profitmaking concern or as a public service.

THE CONCENTRATION OF MASS MEDIA OWNERSHIP IN THE USA

Leland Johnson and Henry Geller

Public policy concerning mass media ownership in the United States is based on the First Amendment to the US Constitution: 'Congress shall make no law . . . abridging the freedom of speech, or of the press. . .' Although these words are simple and direct, their interpretation in a complex society is not always straightforward. Congressional actions and court decisions in this century have permitted some government intervention in media ownership through antitrust actions, special legislation for 'failing' newspapers, and the direct regulation of the electronic media by the Federal Communications Commission (FCC).

Interventions to limit the concentration of media ownership are based on the fundamental objective of preserving and enlarging the marketplace of ideas and information available to the citizenry. And because information dissemination is a private economic activity in the United States – paid for by advertising and subscription revenues – maintaining economic competition among media sources is necessary to preserve competition among ideas. These two objectives are reflected in the approaches taken by the two principal federal agencies concerned with concentration of media ownership: the FCC and the Antitrust Division of the Department of Justice (Antitrust). Antitrust, because of its mandate under Section 7 of the Clayton Act, stresses the objective of preventing undue economic concentration. The FCC places greater reliance on diversifying the sources of news and opinion.

Concentration of ownership in the media takes three general forms:

1. Consolidation of local media outlets of the same type, such as the merger of two competing daily newspapers into a single monopolistic daily;

2. Cross-ownership of two or more different media in the same market, such as the common ownership of a newspaper and a television station; and

3. Group of 'chain' ownership of two or more media outlets in different communities.

Government interventions are designed to deal with all of these forms of concentration. Among local media outlets, the FCC 'duopoly' rules prohibit ownership of two or more broadcast stations of the same type (AM or FM radio, or TV) serving the same community. The Failing Newspaper Act permits competing newspapers to share common publishing and business facilities while maintaining separate news and editorial operations.

FCC rules concerning cross-ownership prohibit future acquisitions of radio-television combinations, and broadcast station-cable combinations, in the same communities. The FCC also prohibits cable ownership by the television networks and telephone companies within their franchise areas. Although the FCC does not regulate newspapers directly, it is considering prohibitions against newspaper cross-ownership of television stations, radio stations, and cable systems.

At the national level, group ownership of broadcast stations is limited to seven AM, seven FM, and seven TV (five VHF) stations. The FCC is considering restrictions on the number and size of cable systems under common ownership. No special rules apply to newspaper group ownership, but newspapers as well as other media are subject to the antitrust laws.

The research literature confirms the existence of economies of scale in local newspaper competition. There is some evidence that local monopolistic newspapers tend to charge higher advertising rates than newspapers facing local competition. This suggests that the effects of increased market power (tending to increase rates) dominate any effects of local economies of scale (tending to decrease rates). Prior studies have not found any substantial differences in content among competitive and monopoly

newspapers, although competing dailies may carry more local and 'immediate reward' news.

Economies of scale have probably contributed to the growth of newspaper groups as well, although the subject is only lightly treated in the literature. Group-owned newspapers controlled about two-thirds of daily US newspaper circulation in 1972. The literature contains no evidence as to whether group-owned newspapers differ from non-group papers in advertising rates, or in the quantity and quality of content.

In terms of the national concentration of television station ownership, the three television networks form the largest group station owners, ranked in terms of audience, revenue, and profit. Overall, group-owned stations (including the networks) account for nearly three-quarters of the average daily television audience in the United States. Network affiliation has been shown to significantly raise the value of a television station's time (which is one measure of the price of television advertising). It is possible that group station ownership also raises the value of a station's time sales, but the prior studies do not present conclusive evidence on this point. The evidence suggests that group ownership has no significant effect on television station programme content.

Cable television shows the characteristics of a local natural monopoly. However, economies of scale decline with cable system size, both in terms of the numbers of subscribers and geographic area, because of the high cost of cable distribution and the additional amplification needed. Nationally, the 50 largest multiple cable system owners control more than one-third of all cable systems and enroll two-thirds of total US subscribers.

In the newspaper, television, and cable industries, the 50 largest group owners control a majority of industry output. Among the nearly 400 television station owners, the 50 largest groups control 74% of the total daily audience. Among the more than 1,000 newspaper publishers, the 50 largest groups control 58% of all circulation. And among the more than 650 group owners of cable systems, the 50 largest account for 63% of all cable subscribers. Neither in the newspaper, television, or cable industries does a single owner outside the top 50 control as much as one-half of 1% of the industry. Using the 'Gini coefficient' as a measure of industry concentration, the cable industry exhibits the greatest concentration of ownership, followed by newspapers and then television stations.

Minority groups own a small percentage of the minority-oriented media, although black ownership of radio stations and cable television systems is increasing rapidly from a very small base. There have been virtually no studies of whether minority media owners present broadcast programming or newspaper content different from that presented by other owners of minority-oriented media outlets.

Most recent studies have focused on local cross-ownership of newspapers and television stations, because of the FCC's proposed rule-making in this area. Studies have shown little, if any, joint operating economies between newspapers and broadcasting stations. Newspaper-broadcast station combinations have declined markedly since 1950 as a percentage of all local media outlets, due to the increased number of radio and television stations licensed in the past twenty years. The absolute number of such combinations is also decreasing, largely as a result of proposed FCC and antitrust actions against them. The extent of local media concentration due to cross-ownership depends critically on definitions of the relevant geographic market and types of media competitors.

Research has shown that newspaper-television station cross-ownership does not significantly affect the price of television time or total revenue among all stations in the combination's market. However, the major studies on the effects of cross-ownership on television station hourly rates each yield different results, because they use different models based on different assumptions about advertisers' expectations. The effects of cross-ownership on local advertising prices of individual broadcast stations and newspapers – the question most pertinent to the cross-ownership policy debate – remains unresolved on the basis of the available evidence.

Prior research has found no substantial differences in programming content between cross-owned television stations and other stations. Two studies found that the knowledge of current events and use of the media were lower in one city with a media monopoly than in similar cities with competitive media sources. However, little evidence has been presented that would extend these results beyond the single city investigated.

A body of court cases, filings in FCC rule-makings and comparative hearings, and news accounts, provides documentary evidence of real and alleged abuses by media owners in specific situations. This evidence shows that some media owners (both those with concentrated and with unconcentrated holdings) have presented one-sided versions of the news, violated the antitrust laws, or otherwise engaged in anti competitive practices. Such evidence plays an important role in adversary proceedings. It does not, however, show patterns or differences in behaviour among classes of media owners.

In sum, most questions about the effects of media ownership concentration on media performance must be answered with the well-known Scotch verdict: 'Not proven.' Many of the prior studies seem flawed by inadequate data or by methodological problems such as a failure to control important variables. The size of a market, its demographic characteristics, and the number of local competitors generally seem more important than ownership in influencing media economic performance and content.

Determining adequate measures of media performance remains a fundamental problem for serious research. Although the First Amendment would preclude government concern with media content per se, the FCC's licensing policies and its rules regarding ownership require some criteria for broadcast station performance. Among the many criteria suggested in the literature, assessing the ownership's influences (if any) on informational and local programming as well as on programming expenditures appears the most relevant to policy making. However, additional research should recognise (and be forewarned) that it is often tempting to measure what is easily measurable rather than what is important. Because of our general lack of knowledge of the ways in which media ownership influences media performance, some more fundamental studies of the economics of news gathering and presentation, and the determinants of advertising price and quantity, may yield more fruitful research results than additional attempts to correlate ownership with presently measurable economic or content variables.

From a study prepared by the Rand Corporation under a grant from the National Science Foundation by Walter S Baer, Henry Geller, Joseph A Grundfest and Karen Possner.

NEW ELECTRONIC COMMUNICATION SYSTEMS: THE FRENCH EXAMPLE

Henri Pigeat

France is not much of a model for the use of the new means of communications provided by satellites, cables, video cassettes and teletext. It has no overall policy, no fixed regulations. Some new techniques have been developed in recent years, and made experimental or even operational, but in each case they have been tightly constrained by the traditional juridical structures and conventions.

The far-reaching reforms of 1975 of television and radio broadcasting were guided by economic not technical factors, and did not alter this general passivity in the face of the new technologies.

The two central characteristics of the current situation are the vagueness of the government's policy, and the network of juridical structures that have been inherited from a previous situation and are now anachronistic. The State's policy towards the new means of communications is centrally-planned and restrictive and, towards other countries, positively protectionist. We will examine this proposition first. Later (page 44) we will discuss how many developments may actually be expected in the light of the current experiments and as a result of pressure from public and private organisations.

The development of *cable information services* (teledistribution, cable TV) is particularly hindered by the rivalry between the public monopoly of Postes and Telecommunications (the PTT, responsible for mails and telephones) and of broadcasting. Instead of working in collaboration, each of these two huge monopolies seems intent on preserving its own prerogatives and remaining in exclusive control of the new cable services.

Through its monopoly over electronic distribution the PTT has been able to develop a high-speed, broadband, transmission system for the transmission of data, facsimile, telephotocopy, teletext, etc. Subscribers to these services are mostly private firms, the press and news agencies. As part of this development the PTT built a cable television network in the city of Rennes. This network has never been used to broadcast any programme.

Since 1974 the monopoly for the transmission of radio and television programmes has been held by a State body called TeleDiffusion de France (TDF). The programme monopoly is shared between three autonomous television organisations and one radio organisation, all of which are public entities. These various bodies have tried in recent years to prevent the development of cable and have taken part in the various experimental projects only to hinder them.

In the field of *teletext*, the PTT, as part of its normal activities, has developed several networks to enable the press and others to operate teleprinting services. It is also increasing the number of possibilities for telefacsimile.

At the same time, TDF on behalf of the broadcasting organisations, has perfected a text transmission

system called ANTIOPE which is similar to the British Ceefax and Oracle systems. So far, however, TDF theoretically has no right to use this system commercially since it falls under the PTT's monopoly.

Satellites are extensively used both by public subscribers – including the PTT and the broadcasting organisations – and private subscribers (in particular, Agence France-Presse). By 1982, a European project, in which France is taking part, will provide direct broadcast satellites whose transmissions could be picked up by individuals. The entire realm of satellites is dominated by public authorities. Private companies are restricted to the role of suppliers.

Videodiscs and *videocassettes*, in contrast, are developing in an entirely different way. The State does not intervene. All initiatives are taken by private industry, in the same way as in book publishing. The difficulties in this field are the same as in other countries and essentially stem from the absence of standardisation.

With the exception of videodiscs and cassettes, therefore, all new means of communication are controlled by the State. Yet the State has not yet drawn up an overall policy. On the contrary, each of the various administrations follows its own policy. Despite various ideas and suggestions, no formal regulations have emerged. And political circles, both in parliament and in the government, seem in no hurry to produce any. These various factors keep everything at a standstill and prevent any major private initiative.

On the international scene, the main preoccupation is protectionism against foreign influence. The French position is not very original. It is the same in most of the countries that took part in the ITU's Conference on Broadcasting Satellites at the beginning of this year. As already suggested, however, past and current experiments, and pressure from public and private organisations, do suggest certain lines of development.

These pressures may force developments in the new services we have already examined. Seven experiments in *cable* systems were approved by the government in 1973. For financial and political reasons, the project resulted in the building of very limited networks and no lasting distribution of programmes. But it did bring together the State, local town councils and the press in the creation of each network, which proved to be a novel and interesting experience. It is also significant that these groups laid down the principle of free but organised access. This idea does not seem to have been completely abandoned and could serve as the basic principle for future networks.

Several networks of collective antennas (CATV) have been developed and could permit the distribution of a very limited number of original programmes or services. But they have practically never been used for this purpose.

At the moment a State decree is being prepared to determine the conditions by which the monopoly of radio and television could be lifted to allow cable services. The draft text has not been completed, but it appears so far to be very restrictive. Any exceptions would be limited to activities with a specific technical character and addressed to a clearly defined public. What is more, each exception would be subject to approval by the television programme organisations, by TDF, and possibly by a consultative commission answering to the Haut Conseil de l'Audio-Visuel. In fact it is a project for granting exceptions to the monopoly of programming but not of transmission – which after all, is under the control of the State organisations concerned with television programmes.

Another experiment was carried out in 1976 in videotransmission. This used cable and projection TV to show programmes that were intended for specific social or cultural groups in public places – like cinemas, clubs, etc. Videotransmission is easier to control than cable and seems likely to develop more rapidly.

The outlook for cable is certainly not promising. The government stated in 1976 that no priority could be given to the development of cable networks and that it was not prepared to encourage them.

The question therefore is whether the results of these experiments, and the increasing awareness of a certain number of needs, will lead the French public authorities to revise their attitude. Or will the change come from neighbouring countries – in particular Germany, Belgium and Switzerland – whose frontier networks could easily be extended into French territory?

Experiments with *teletext* have led to growing interest among a number of potential users. Newspapers, news agencies, the stock exchange, sporting organisations and many private companies are awaiting its implementation impatiently. The PTT has acquired an appreciable lead in this field, but its tariffs are high. Meanwhile TDF is ready to commercialise its comparable and probably cheaper service of ANTIOPE. Economic competition and explicit needs could therefore favour a major shift in this field.

As far as *satellites* are concerned, no-one in France, or in Europe for that matter, really contests that the State should have the overall responsibility. On the other hand, the launching of foreign satellites capable of beaming programmes directly at France may fundamentally change the entire satellite issue. Here again, we could see appreciable changes.

The juridicial situation in France is too anachronistic, and the attitude of the State too rigid, for the present situation to remain unchanged for much longer. But it is difficult to forecast the exact nature of the changes, and when they will take place. Italy is an example of a country in which legislation that was obviously and extremely unsuitable was completely overwhelmed by both old and new methods of electronic communication to such an extent that the situation now verges on anarchy. In France, the more solid administrative structures, and a slightly different tradition, give hope for a more harmonious evolution in which the role of the State and that of private initiative would be more equally balanced. This is a possibility, a hope, but by no means a certainty.

The basic questions, meanwhile continue to be discussed in a number of organisations, particularly the Haut Conseil de l'Audio-Visuel.

How to offer, to a larger number of individuals and groups, easy access to these means of communication; and how to ensure equality of access?

How to reconcile, on the one hand, the right of individuals to get access through these means of communication to an increasingly universal culture and, on the other, the right of national cultures to protect themselves against foreign interference?

How to avoid a disparity between the industrialised countries and the developing countries in the face of techniques which may lead to cultural imperialism?

How to ensure the freedom of enterprise and initiative in the creation of the new means of communication and in their use and, at the same time, how to ensure respect for basic rules, a deontology even, without at the same time giving the State a role that could prejudice liberties?

No clear replies to these questions have yet emerged in France. But the pressure of the needs of the economy and of society makes them more and more urgent as each day goes by.

COMMUNICATION POLICIES AND STRUCTURES: LATIN AMERICA

Luis Ramiro Beltran S.

At a first glance, the communication situation in Latin America does not look too bad. Hundreds of modern newspapers and magazines populate the news stands; radio stations are counted by the thousands; long queues are normal at the numerous cinemas; TV antennas can be seen even in the slums and satellite stations are a landmark in many capital cities. The minimum standards of mass media availability per each 100 inhabitants, as recommended by UNESCO to the developing countries, have either been reached, in average terms for the region, or clearly exceeded.

As a rule, however, these media institutions are concentrated in the cities. They do not reach the close to 150 million inhabitants of the rural areas. Even inside the cities mass communication opportunities are markedly stratified. Full access is enjoyed only by a very small minority characterised by high economic, social and educational levels. And even if such skewed distribution was to be corrected one day, many people might still be handicapped by the nature of the media's content.

Several studies have found that, with few exceptions, most major media have a decided preference for trivia over more serious matters that might be useful to the national development endeavours. Other studies have begun to document the stimulation of irrational buying behaviours; the promotion of values that, in general, are alien to local cultures and, sometimes noxious to them; and the impairment of the audience's ability to appraise critically their society and culture, and thus seek to transform both of them.

Many owners and some practitioners say that programme content is the way it is because the audience wants it no better. Research is increasingly finding, however, that the basic explanation lies with those who finance the programme (or newspaper) – with their interests, attitudes and values. For instance, ownership of a media outlet has often been found to be related, directly or indirectly, to ownership of the means of production. And questions of advertising can hardly be deemed inconsequential.

US advertising companies lead the field in most Latin American countries. Some of their main clients are the US transnational corporations. Of the 170 advertising agencies operating in Mexico only four are solely in the hands of Mexicans; of the $500 million yearly spent in advertising in that country, $400 million are handled by 11 US agencies. The top ten agencies in Venezuela are US owned or controlled; of the 78 members of the National Association of Advertisers of that country, 42 are US transnational firms. Six of Argentina's ten most important agencies are US affiliates or associates. One US agency handles almost all advertising in the Central American countries. And the sales of two US agencies in Brazil, which are the largest in the country, represent twice the sales of the leading national agencies. Advertising is clearly a very strong transnational influence on the mass communication system of Latin America.

Programming is another significant force. For instance, estimates of Latin America's purchases of US television materials range between $25 and $80 million per year. A study of one week of television programming in 18 cities of the region gave an average of close to one-third of contents imported from the USA. Comic strips and comic books constitute another area of clear US influence. Several of the major US magazines have large circulation Spanish editions stemming chiefly from affiliate or associate Latin American firms in Mexico and Venezuela. And US firms are predominant even in Mexico, the region's main producer of motion pictures.

US influence on Latin American mass media content is overwhelming in the case of international news. US traffic from the region, to the region and within the region is handled by UPI and AP, who are responsible for over two-thirds of the total, with Agence France-Presse being their only major but still very distant competitor. Other international, quasi-regional and national news agencies are marginal. Both Latin American and US analysts have charged the US agencies with intentional bias and systematic distortion. Rafael Caldera, former President of Venezuela, noted 'Perhaps the phrase 'no news is good news' has become 'good news is no news'. Only the most deplorable incidents, be they the work of nature or man, get reported . . . . .' And the incumbent President of that country, Carlos Andres Perez, agreed: 'The big press of the big countries does not report our realities, our struggles and our goals . . . . .'

Some US newspapermen share these views. Notes Hendrix: 'Through the years the United States has caught an occasional glimpse of Latin America from reports of catastrophe, war, looting, piracy and political upheaval . . . . . the imbalance in the flow of news from Latin America, compared with the flow of other parts of the world today, results in a continuing distortion of perspective'. Knudsen affirms: 'Governments may come and go in Latin America but one thing remains constant in the US press – a seemingly implacable hostility towards social change elsewhere in the hemisphere, whether accompanied by violence or not.'

A study of 14 major Latin American dailies found that their most important international news items in a given day in 1967 were a US offensive in Vietnam and a royal visit by a pair of newly-weds to the Dutch Parliament. Completely ignored was a conference of African leaders held the same day. The Dominican crisis and a military uprising in Ecuador were also passed over, but news was published of the birth of a two-legged pig in Venezuela and of the capture of a witch in Colombia.

In essence, then the situation of mass communication in Latin America is characterised by the predominance of private, national and transnational interests identified with the preservation of the *status quo*. As such it cannot be expected to contribute much to national development, if by that is understood something other than material advancement and economic growth favouring elites.

Only in the last ten years or so has this situation been intensely studied and only in the most recent of those years is it being widely questioned. Today's challenge is firmly rooted and oriented and comes from many walks of life in the broader community. It is lead by change-oriented persons, groups, universities and other institutions, and even governments, that can in no way be dismissed as undemocratic.

Censorship, seizure, nationalisation and expulsion, as tactics for change, have been ruled out. Instead, many of these individuals and organisations are attempting to set up, through public conciliation and consensus, pluralistic legal instruments, and new regulations. So far, only a few, scattered, outdated and, at times, contradictory norms are available to guide communication behaviour.

These additional norms would aim to significantly improve the situation at the national level and to alleviate, at least, the impact of its transnational determinants. They stem from a whole range of more human and fair perceptions of development, communication, and international relations in economic, political and cultural matters. These perceptions are generating redefinitions of the prevailing concepts of 'news value', 'objectivity', 'free flow of information', 'information freedom' and 'information rights', as well as of the roles of communication in society. The movement, which is not particular to

Latin America but general among Third World countries, seeks the gradual and peaceful establishment of a 'new information order' parallel to the 'new economic order' which, in search of justice, these countries are struggling to build.

A peak was reached in this movement in 1976 when, under the auspices of UNESCO, the First Inter-Government Conference on Communication Policies was held in Costa Rica. Its leadership rested in the hands of the government representatives of those countries which in this part of the world are closest to democracy: Costa Rica, Venezuela and Colombia. The conference produced a Declaration which synthesised much of the emerging doctrine of communication and recommended some concrete remedial actions at national and international levels.

None of these events are, of course, taking place without opposition from the established system of communication, which sees freedom as gravely threatened. The debate is presently heated by emotional outbursts and distorted by entrenched prejudices and assumptions. It is to be hoped that a rational, co-operative and constructive dialogue will soon replace it.

6. BROADCASTING SYSTEMS

National broadcasting systems are continually changing in terms of policy, structures and programming. Major changes have taken place or are being discussed of both the relatively established systems of Europe and North America, as well as of the younger systems of developing countries. In this chapter the current situations in UK, Egypt and Sweden are discussed by three experts who are closely involved in broadcasting and the wider debate of its future.

THE ANNAN REPORT ON BRITISH BROADCASTING

Hilde Himmelweit

The Annan Committee on the future of broadcasting was the sixth Committee of Enquiry into British broadcasting. The system's essential characteristics were laid down as early as 1926, by the Crawford Committee. The first was that a service that uses a scarce national resource should be conducted in the public interest, and made available to all. Secondly, the service should be responsible for both transmission and programming. Thirdly, in order to ensure the necessary editorial and creative freedom, the broadcasting organisation (of which the BBC was the first) must not be subject to continuing ministerial guidance.

To achieve this, a two-tier structure was set up with the government appointing the Authority to whom it delegated the running of the broadcasting service (for the BBC, the Governors are the Authority). The same structure was used for commercial television in 1955, modified only to take account of the fact that ITV consisted not of one company, as in the public sector, but 15. It was left to the Independent Television Authority (ITA) to evolve the pattern of commercial television. This included deciding on the size and number of franchises, selecting the companies, deciding on the manner of charging advertising revenue, and supervising the conduct of the service. Because of the number of programming outlets, ITA also assumed responsibility for transmission.

In law, it is the Authorities and not the BBC Corporation or the ITV companies that are responsible for transmission and output. From the start then, these Authorities had a dual role. They had to ensure that the broadcasters operated in the public interest and were responsive to the public and, secondly, they had to safeguard the broadcaster's independence. The Acts and Charter through which Parliament lays down broad guide-lines for each Authority come up for renewal at fixed intervals (the next is due in 1979). Committees of Enquiry, like that chaired by Lord Annan, are generally set up prior to such renewal. During the 10 to 12 years between one Committee and the next, except for questions in Parliament, there exists no forum for public debate about the conduct of the services or for discussion of proposed changes in broadcasting or its role in society.

The Annan Committee was set up in 1974 and asked to report within 2½ years. Its terms of reference were: 'To consider the future of the broadcasting services in the United Kingdom . . . . to consider the implications for present or any recommended additional services of new techniques; and to propose what constitutional, organisational and financial arrangements and what conditions should apply to the conduct of all these services'. (The External Services of the BBC were excluded.)

Continuous developments in broadcasting have made for increased complexity in the task of successive Committees. Since the Pilkington Committee reported in 1960, for instance, the number of services to be considered have increased (BBC2 and local radio have been added) while others were waiting to be made operational (the 4th Channel, teletext and Cable TV). There was a need to consider the likelihood of a European satellite and the impact of developments like Viewdata, videodiscs and videocassettes.

While the difficulty of the task had increased, the conditions under which the Committee had to work remained the same as on previous occasions. As before, the membership was unpaid and of a political complexion ranging from pink to pale blue drawn from a variety of occupations. Only 5 members out of 16 had had any previous experience of the world of broadcasting (2 as producers, 2 as freelance broadcasters, 1 as researcher).

The Civil Service provided high-level professional personnel for a secretariat, but it had not, for instance, commissioned any preparatory studies that might have presented the Committee with different scenarios about the future (together with cost benefit analyses), whether these concerned technological developments, societal changes or alternate broadcasting structures. Almost all such scenarios came to the Committee from organisations (including the Post Office) with a particular case to argue. Nor could the results of the small number of studies which the Committee commissioned become available during

the early and crucial phases of the Committee's work.

Developments since 1960

Since the publication of the previous Committee's report in 1960 several major changes had taken place. In broadcasting, the main changes were: *Television*: BBC2 started (1964); colour TV introduced (1969); governmental restrictions on the number of broadcasting hours lifted (1972). Under-financed cable experiments were carried out in 1966 and again since 1972. *Radio*: BBC was granted a fourth radio service to provide continuous popular music as a substitute for the outlawed pirate stations (1966); between 1962 and 1974 BBC radio output almost doubled. *Local Radio* was started in 1966 and has been a political football ever since. In 1966-70, the Labour Government authorised 20 BBC stations with a view to increasing that number. The Conservatives who came to power in 1970 stopped any increase and instead authorised up to 60 commercial local radio stations under the aegis of the ITA (renamed the Independent Broadcasting Authority). When Labour returned to power in 1974, the 19 commercial stations already started were allowed to continue but any increase of BBC or commercial stations was stopped until the Annan Committee had reported.

The main societal changes since 1960 were the lessening of the consensus in society on which the easy relationship between broadcaster, the public, and government had rested. Divisions within society had become more visible and vocal. There was a greater distrust of authority and of powerful institutions, and a greater criticism of the broadcasters – in particular of the BBC – as representing an unelected elite accountable to no-one. There was a greater awareness of the broadcasters' role in agenda-setting, and accusations of bias or blandness. There was some feeling that the BBC and ITV were waging a private war for mass audiences in which the interests of the public were little considered. Because the BBC was seen as the more powerful of the two organisations, most of the criticisms were directed against it. In the days of the Pilkington Committee, ITV had been the target.

Considerations which informed the Committee's Recommendations

The Committee broadly agreed on six basic premises.

1. British broadcasting was in good shape, commanding respect at home and abroad, but it appeared to have reached a plateau. There were signs of a hardening of the arteries. Just as an increased vitality had come to broadcasting when it moved from a regulated monopoly to a regulated duopoly, the Committee felt that vitality would now come, not from more of the same, but through experimentation with new forms of broadcasting services which, to be truly different, require that they should not compete for exactly the same source of finance.

2. The Committee felt that mass audiences were adequately catered for; what is needed now are programmes which cater for the diversity of tastes and interests of the different minorities (which are often very large) that make up the mass audience. This is why the Committee laid special stress on the expansion of local radio, the later development of local cable television, and on using the fourth channel as 'host to different companies, programme styles and educational ventures.'

3. The usefulness of an Authority as a buffer between the public and the broadcaster has stood the test of time and any new service should therefore be developed under the aegis of a new Authority concerned solely with that service. To add a new service to an existing Authority already responsible for a rather different service would cramp the style of the new venture.

4. The powerful institutions of the BBC and the IBA were insufficiently accountable to the public, and some provision should be made to increase that accountability without hampering creative and editorial freedom. Also, since each Authority had been assigned the task of developing a service in the public interest, it was necessary to consider the public interest across all broadcasting outlets.

5. The dismal economic climate in Britain might delay not only the implementation of the recommendations but also the speed with which new relevant technological developments were taken up. The Committee was very aware of its lack of feel for developments in telecommunications and their potential effect on broadcasting. (The Report's chapter dealing with these matters is the least satisfactory). It therefore considered it a matter of urgency that provision be made for a better review of such developments than could be accomplished by leaving it either to a periodically activated technical committee or to inexpert periodic Committees of Enquiry like the Annan Committee. It saw the need for more continuous review, and for that review to be as much concerned with societal needs as with technological options.

6. The Committee also felt that the mid-seventies were a particularly difficult stage in the history of broadcasting for the making of recommendations; there were too many unknowns. Our recommendations take account of this uncertainty and use it to try out several new forms of broadcasting that would move broadcasting in the direction of greater flexibility and diversity. The Committee further felt that accountability meant not solely building up a more effective interchange of ideas between broadcasters and the public but also having informed debates with the public at the times at which government needs to make decisions about new services and options, many of which cannot wait upon the next Committee of Enquiry.

The main Recommendations for the BBC and IBA

1. The BBC should continue to be the main national instrument of broadcasting in the UK, but should no longer be responsible for local radio. A minority of the Committee thought that the optimal development of each medium, especially radio, would be achieved by having two separate BBC services: BBC radio (to include the external services) and BBC television. The majority felt that the gain would not be sufficient to offset the potential weakening of the BBC's prestige through such separation. All were agreed that the BBC was top heavy, and needed to improve communications within the organisation and with the public.

2. The ITV service had come of age as a service of high quality. It should be primarily regional, and the IBA should no longer be responsible for local radio. The Committee emphasised the need for strict control concerning the size of foreign and newspaper holdings. Contractors should not be allowed association with music or promotion businesses. It recommended fixed, not rolling, contracts to facilitate competition by new companies for existing franchises.

3. Both Authorities should hold public hearings in different parts of the country to allow the public to comment on the service.

4. One service should provide audience ratings for all broadcasting outlets.

5. There should be a common complaints commission across all broadcasting services to deal with complaints by individuals and organisations about misrepresentation or unfair treatment in the media

New Broadcasting Services and Authorities: the Local Broadcasting Authority

An LBA should be established to take responsibility for all local radio, for the hospital and university services so far licensed by the Home Office, for any cable experiments, and, at a later stage, for the development of cable. It was thought that local broadcasting should occupy an increasingly important place in society, but that it will not flower unless allowed to develop quite separately and not as an adjunct to powerful regional and national services. While the main source of finance would be advertising, special encouragement should be given to non-profitmaking trusts, to co-operatives and to a whole variety of endeavours to finance local stations.

As local radio should be attuned to local needs, it might differ from area to area, with the poorest being supported as satellites by more profitable stations or through grants for, at the least, their educational programmes. There should be diversification in the sources of finance and in the stations' organisation and orientation. The Authority would be concerned with securing the funds needed to encourage development. It should be small and innovative, and involve the communities at all stages for its work, with hearings held at the time of awarding a franchise and periodically thereafter. The valuable work done by BBC local radio would not be lost since it was hoped that such stations would wish to transform themselves into non-profitmaking trusts and enter into some contractual and financial arrangement with the BBC for the provision of local news.

The Fourth Channel

The arguments for giving the fourth channel to ITV ranged from fairness and tidiness (two channels for each service) to the need to give ITV an outlet for its talented producers and the availability of IBA and ITV to run such a service. But the arguments against so doing were far stronger. Such a system would mean more of the same and an increase in the fight for mass audiences. The opportunity to increase the number of inputs into broadcasting would be lost, and the monopoly of television advertising continued unjustifiably. But, more important, it would mean the loss of a unique opportunity to experiment with new forms of TV programming and structure which might move broadcasting in the direction it will need to go when more and more broadcasting outlets become available.

Underlying the proposal for an Open Broadcasting Authority is the desire for plurality in a deeper sense than what is generally meant by plurality of outlets. It is seen as a nursery for new forms and methods of presenting ideas, and as opening the door to a new kind of broadcast publishing. This requires a new Authority and cannot be done by placing the channel under the wing of an existing Authority.

The OBA would have several novel features. It would commission programmes rather than produce them. Also, while it would present news analysis and political and social commentary, it would not have a newsgathering service.

It would give first priority to identifying and satisfying the diversity of the interests of the minorities that make up the mass audience.

There would be diversity in content and origination. The OBA would provide an outlet for programmes from independent producers, from ITV, ITN, and the BBC. It would feature Open University programmes and other adult education and retraining programmes, to be financed by grants from government or industry. Once programmes were selected, the OBA would act as a publisher. It would allow committed programmes, using a looser interpretation of 'balance' in broadcasting, but it would, of course, like any other Authority, be subject to the guidelines given to it by Parliament.

Revenue would be obtained by block advertising, by sponsorship (with adequate safeguards) and, in the case of educational or retraining programmes, by grants from the government or industry. The transmission of the Fourth Channel would be operated by the IBA.

The Authority and the service would be kept small. Money to launch the service would be provided by a grant or loan from the government – in other words, the taxpayer which would also be the case if the channel were given to ITV since their additional costs would reduce the size of the levy paid by the companies to the Treasury.

The Public Enquiry Board

The Committee recommended the establishment of a Public Enquiry Board for Broadcasting (PEBB) to discharge certain essential functions which cannot be discharged by the existing or proposed Authorities. Each Authority answers for the service under its care. No one is responsible for taking a general view of all broadcasting services in the interest of the consumer. Unlike, say, the Canadian Radio, Television and Telecommunications Commission the Board will have no executive functions even though it will adopt some of the CRTC's strategies. It is suggested, for instance, that the Board should hold public hearings once every seven years into the way each Broadcasting Authority has discharged its responsibilities. Such hearings might reveal that all is well, or that the Authorities have not fulfilled their remit or that the remit needs changing. The Board would report to the Home Secretary on the public's view of the services to be laid before Parliament.

The PEBB would provide a forum for public debate (possibly again through hearings) of proposals for new broadcasting services or of issues raised by the reports of the Telecommunication Advisory Committee. Although our Committee proposed the establishment of a separate Telecommunications Advisory Committee (TAC) to advise government on all matters pertaining to telecommunication, it proposed that there be cross-membership or joint meetings with the PEBB for a regular interchange of views to ensure that both technological and social options are examined. The Board would be non-executive. It would encroach neither on the responsibilities of the Home Secretary or of the Broadcasting Authority nor be a court of appeal against a Broadcasting Authority. It would be independent of both government and the broadcasting authorites. At the request of the Home Secretary or of a Broadcasting Authority, the PEBB would carry out or commission research into issues which have given rise for concern (such as violence), do cost benefit analyses of different proposals for new services, or carry out a review of the educational output of all the broadcasting services.

The effectiveness of the PEBB would depend on the prestige that the quality of its work will command. It might prove invaluable to government by taking over responsibility for the monitoring of new experiments and by keeping government informed of developments elsewhere; and useful to the broadcasters by examining problems shared by all the Authorities. The Board would have a small expert secretariat, some or all of whom (here there was disagreement among the Committee) might be recruited from outside the Civil Service.

The Committee considered the establishment of this small Board as important at a period when so many decisions in the field of telecommunications require independent examination. The fact that the PEBB would send an annual report to Parliament would ensure that its debate was better informed than now. An additional factor is that the task of our Committee was rendered very difficult because of the lack of

relevant research reports. The next Committee could be far better served if the PEBB functions properly. The Committee could draw on their publications during the intervening years.

Just as each Authority will be scrutinized by the next Committee of Enquiry, so, of course, would the work of the PEBB.

Teletext

Ceefax (BBC) and Oracle (ITV), though developed independently, are identical teletext services. When the Committee was meeting both Authorities were licensed by the Home Office to use teletext to provide data broadcasting services until 1979. This year, the Home Office lifted the time restriction.

The BBC now transmits daily 16 hours of updated Ceefax services on BBC1 and 2; ITV provides updated services from 10 – 6 p.m. and unchanged pages outside these times. Each service has 100 pages, compiled by a small editorial staff.

The majority of the Committee took the view that the Authorities should treat Ceefax and Oracle as extensions of their existing services. A minority saw them as publishing rather than broadcasting enterprises, although quite different in kind from the Authorities' existing publishing activities. The minority argued that by comparing Ceefax/Oracle to Viewdata's interactive facility, it was easy to underplay the importance of the former.

The right comparison was with the ease of obtaining printed material and with its costs. New developments make an inroad into existing provisions when the new service is similar but cheaper and more continuously and easily available; unlike the newspaper, Ceefax/Oracle are free of charge, more easily updated and offer more choice. The minority saw teletext as the first of several technological advances which will make print available in the home, requiring a novel arrangement for running the service.

While there was agreement that the service should be operated by IBA and BBC respectively, the minority thought it should be developed by a small editorial board with an independent chairman. The board would include broadcasters, journalists and others to ensure that the full development of the services was not jeopardised by sectional interests whether these be of broadcasters or the press. All were agreed that after a few years the working of these new services should be reviewed by the PEBB.

The Industry's Reaction to the Report

After the initial discussion of the report by both Houses of Parliament, the Home Secretary invited comments. A White Paper outlining the government's proposals will be published towards the end of 1977.

The Industry complimented the Committee on reaffirming the essential principles on which a free and creative broadcasting service rests, and on its industry and humanity. The Chairman was praised for the quality of the writing. Sir Brian Young, Director General, IBA, said in his Granada Guildhall lecture that the report was 'a caring report'.

These are the descriptions that a headmaster might use in a reference about a well-meaning but not very bright pupil who had no chance whatever of getting a university place. The major, concrete proposals about local radio, the 4th channel and the PEBB were all rejected. They were described as 'academic' (a term denoting a regrettable combination of naivety, an ignorance of the world and of finance, and arrogance). Nor were the counter arguments insubstantial, if cost-effectiveness and a preference for the familiar are the paramount considerations.

The PEBB was rejected as unnecessary, and even harmful, in that it would 'over-examine' and so create uncertainty. It was said to be 'unnecessary' because the Authorities were already looking after the public's interest.

The proposals for local radio were equally contentious. The BBC took the view that if competition had been good for TV, it must be accepted that it was good for local radio; that the Committee had made a mistake in not realising that the frequencies would permit major two-station centres; that BBC local radio was different in kind from commercial local radio; and, finally, that the BBC depended on its local stations for news, for new talent, and even for innovative programmes. The IBA's view was that, irrespective of whether BBC local radio were to continue, the IBA could do the job of the proposed Local

Broadcasting Authority and do it more effectively and cheaply, and that its system of franchising and guiding local radio contractors had already demonstrated diversity and sensitivity to local needs.

On the 4th channel, both the IBA and the ITV companies submitted separate counter proposals which, while in theory incorporating many of the suggestions of the OBA, would effectively lead to an organisation run by the IBA and by the companies (any additional costs being borne by the companies, so reducing the levy and so reducing the income to the government). The IBA proposal was the more adventurous in that it would give only 40% airtime to the major companies, with the bulk of the remainder open to educational programmes, independent producers, and regional companies. A separate Council of Independent Producers would be set up to pre-select the contributions for their slots. The final selection and, of course, the scheduling would be done by a special board, so that neither ITV nor the IBA would deal with 'when' but only with straight percentages of air time. The two services, within the framework of these entitlements, would be complementary, and it is expected, would reduce the levy for the first three years and then add revenue through additional advertising. Both assert that if the OBA were given the fourth channel, it would have to seek mass audiences more than would ITV2 since it would lack the cushioning that would come from being part of ITV.

A Final Comment

The response of the industry was predictable. Institutions are not there either to accept reduction or to pass up an opportunity to diversify and grow. Their arguments were also predictable in that they make their incorporation appear more novel and more in tune with the recommendations than they would be in practice. The broader questions raised by the report and its receptions are fourfold.

The right way to introduce the proposed innovations would have been for the Committee to begin with the technological developments that will come and then to show that the intervening years before these developments become operational should be used to experiment with new remits and with progressive decontrols. Given the particular way in which the independence of institutions is safeguarded in Britain, this kind of evolutionary process could only be accomplished by creating new Authorities, one for each service, and not by enlarging the tasks of the existing ones. We should also have stressed, even more than we did, that the real task of the PEBB is to enable the public during these crucial years to understand the choices that different telecommunications systems offer, so that they can actively participate in the decision-making.

The public should have been made aware (a) that the levy is a tax on broadcasting, that it may not be in the public interest, and that diverting such money for new enterprises to assist community and other needs may be more appropriate; (b) that an opportunity to increase editorial outlets is of particular importance at a time when outlets in the printed medium are decreasing; and (c) that a monopoly in obtaining advertising revenue is as much against the public interest as is a monopoly in any other form of trading.

The effectiveness of the Report depended upon the political climate operating at the time of its publication. The present political climate in Britain gives innovation a low priority.

Finally, is an unpaid, part-time, inexpert Committee the appropriate method for investigating in detail a large scale industry? I am sure it is not. Such a Committee could have a place in outlining general principles and desiderata, but is inappropriate for taking on broad technological developments and their implications.

BROADCASTING SYSTEMS IN THE ARAB STATES

Gehan Rachty

Radio and television are the most important media in the Arab world. The Arab cultural tradition is an oral one and radio spoke directly to that, unhampered by the slow growth of literacy. Radio has played a key role in forming political opinion and changing expectations and hopes. When, in the future, television reaches the rural population there is every likelihood of its playing an even bigger role.

In the early fifties, many Arab states did not have a national radio service. Those few Arab radio stations that did exist were of the most conservative and even primitive kind. Nevertheless, they were symbols of the emerging nationalism. The *Voice of the Arabs* (which started in Cairo on 4 July 1953) played a key role in familiarising the Arab people with the power of radio. It also played a key role in crystallising

Arab public opinion, and reflecting the Pan-Arab, anti-British and anti-French feeling of that time.[1]

The nineteen-fifties and sixties were a time of radical change in Arab society. Radio was used as a political and psychological weapon. The Arab States' acceleration of the pace of change and modernisation depended on the leaders reaching the illiterate masses with new ideas, and encouraging them to participate in national development. These efforts increased their expectations and desires, and created economic and social problems in many States. The rate of change, in fact, began to strain people's capacity to cope with national development. The media must assist people to adapt to both levels of these social and economic changes.

These factors, combined with the lack of agreement on fundamental issues, the need to integrate and unite the people around common goals, and to bridge cultural discontinuities, resulted in various restrictions on the freedom of expression and the freedom of the press. The desire to reach the masses with new ideas necessitated the imposition of some control. All the media had to support the basic policies of the state and had to work within the framework of these policies. Broadcasting could not be allowed to play a neutral or passive role. It was carried out by official broadcasting organisations, and was organised as an integral part of government, and as an agent of government.

Radio was introduced in the nineteen twenties and thirties in Algeria (1925); Egypt (1926); Morocco (1928); Lebanon (1937); Iraq (1936); and Tunisia (1938). It was introduced in the forties in the Sudan (1940); Somalia (1943); and Saudi Arabia (1949). In the fifties and sixties it appeared in the rest of the Arab states. However, 'there were no viable domestic or international radio services in any Arab country outside Egypt until the nineteen sixties'.[2]

Television services started in the nineteen fifties in Algeria (1956); Iraq (1956); and Lebanon (1959). In the sixties it started in Egypt (1960); Syria (1960); Kuwait (1961); Morocco (1962); Sudan (1962); Yemen People's Democratic Republic (1964); Saudi Arabia (1965); and Tunisia (1966). It was introduced in the rest of the Arab states in the seventies (except Somalia and Mauritania).

The total number of radio receivers in the Arab states was estimated in 1973 to be 21,500,000; the estimated number of television receivers at 4,200,000. However, it is not possible to arrive at an exact figures because in some States no license of ownership is required.[3]

Radio services with national coverage now exist in all Arab states and nearly all of them have powerful radio transmitters. The Palestinians (PLO) use powerful short-wave transmitters at Damascus, Cairo, Algiers, Bagdad, Tripoli, and Beirut. The extent of TV coverage and the number of sets vary greatly from country to country. It is generally limited to urban areas giving distinct advantages to city people. Group viewing and listening are common, especially in coffee houses, co-operatives, restaurants and other public places in rural areas. The availability of inexpensive battery-operated radios, together with the custom of group listening, enables local and foreign radio programmes to get wide reception.

Broadcasting services in most Arab States are run as national services, and are highly centralised. There are no provincial or local stations except in Morocco, Saudi Arabia and the UAE. Both transmission and studio facilities tend to be concentrated in the capital city. Fear of regional divisions and lack of funds have prompted Arab governments to centralise in the capital. While this has affected regional and local development, it has served to integrate the nation, to assist the emergence of uniform cultural patterns throughout society, and to bridge gaps between local and national interests.

All Arab broadcasting services are government owned and operated and essentially non-profitmaking except in Lebanon and Oman. The two television station in Lebanon are owned by two commercial companies, the French broadcasting monopoly and the English Thomson company. Both have been subjected to strict government supervision and are at present controlled by al-Kata'ib and the Lebanese Army. In Oman, a German company operates the television service, but under strong government control and censorship. The American RTV company operated a commercial television service in Bahrain until 1975 when the government bought its assets.

In most Arab States broadcasting is financed mainly through license fees and State grants. Most governments provide all or most of the funding for their broadcasting services. Very few allow commercials on their radio service; but television does need commercial support and in a number of States advertising has been accepted. However, since per capita income in most Arab States is low, commercial sales do not contribute very much to broadcasting budgets. In Egypt, a limited amount of commercial time is allowed on two radio services – People's Programme (since 1960) and Middle East Programme (since 1964) – but it has not produced much revenue. In 1976 advertising revenue from both radio and television amounted to 3 million Egyptian pounds. In Kuwait, revenue from television advertising in the same year amounted to three million dinars. These sums are only a small percentage of operating costs. In most Arab States advertising revenue and license fees usually go direct to the state treasury.

The first aim of a government-operated broadcasting system is to present, explain and hand down government views. Politics colour much of programming. Explicit political material comes in the form of the frequent public speeches by major government personalities, official statements and official commentaries on the news. The movements and ceremonial activities of the Head of State or other important political figures receive extensive priority coverage.

Broadcasting in the Arab states is inextricably involved with politics. One-party states, and other centralised forms of government, manipulate the media in general, and broadcasting more than most, using radio and television as instruments of both internal and external policy. Political themes therefore dominate the news bulletins. There is a keen awareness of the political importance of radio and television news, and accordingly the newscasts reflect the orientation and policies of the governments.

A system fully supported by the government, according to Ithiel de Sola Pool, 'runs the risk of becoming boring and reflective of the tastes and views of the civil service. There is no incentive to attract audiences, since the revenue does not decline if the audience falls off, and the only people who must be satisfied are those who hold the purse-strings'.[4] Nevertheless, in the Arab States this type of system is bound to remain, because governments are eager to disseminate political and ideological messages, and recognise that license fees would discriminate against the poor. As Professor Pool says, 'in a country whose population is not affluent, the fee may slow down television penetration'.

Most radio and television programmes are broadcast in Arabic, but in addition there are in most Arab States transmissions in English and French and some other languages. In Jordan Hebrew is used in news bulletins. Some countries offer radio programmes in local languages such as Kabyl or Berber, Kurdish or Turkman.

There is an increasing emphasis on entertainment, especially serials, long feature films and variety shows. These categories account for 53.8% of television time in Abu Dhabi; 44% in Saudi Arabia; 56% in Qatar; 60.5% in Kuwait and 60%: in Egypt; and an average 55% of television time in all Arab states. Their purpose is to attract audiences and give them what they want, since television is considered mainly a medium for entertainment especially in States where there is no other public entertainment.

Television entertainment is consciously used in many cases to divert people's attention from social, economic, or political problems. In September 1964, television was introduced in the Yemen People's Democratic Republic 'to divert people's attention from the revolutionary tide sweeping the southern parts, particularly since Northern Yemen is spreading the spirit of struggle against the British occupation' (the British evacuated Yemen, PDR, in 1972).[5]

There is no doubt that entertainment is a potent force in diverting attention in this way. But using the mass media to influence the organisation of leisure time obviously has major cultural significance. As Professor Iliya Harik says: 'Entertainment offered by the mass media is a form of vicarious learning for the villager, whereby the overt messages of any programme may convey many covert meanings. By organising the villager's leisure time through the mass media, national leaders impart to him new values. Villagers assimilate new ideas, often unconsciously, as they watch plays, movies, and variety shows on television. For instance, television has introduced rural people to scenes from city life that reflect, among other things a liberal disposition toward men-women relationships in single as well as in married life'.[6]

Other than entertainment, national Arab programmes fall into four categories: political programmes; programmes dealing with general problems or current issues; folklore; and religious programmes. The most common forms of presentation are direct talks, magazines and variety shows.

A high percentage of television programmes are imported from other countries. The United States is the major supplier, although Algeria, Tunisia, Morocco and Lebanon import a high percentage of their programmes from France. In total, Dubai imports 62% of its television time; Abu Dhabi 58%; Saudi Arabia 40.4%; Algeria 50%; Kuwait 35%; Oman 85%; Qatar 70%; Sudan 40%; Iraq 23.2% and Yemen People's Democratic Republic 75%. Local programmes may also include foreign items, a fact which is not reflected in these figures.[7] The main reasons for these large amounts of imports are inadequate funds; and the shortage of local talent and television equipment. The necessary infrastructures for local production in theatres and cinemas, and general cultural activities, are also not well developed.

Foreign programmes not only affect viewers but also, indirectly, producers and script writers. The ideas and formats of the foreign programmes are copied, and 'quizzes, the variety show, the soap opera are produced according to imported models'.[8] The showing of a high percentage of foreign programmes, with their alien values, may also affect cultural identity; especially since most foreign programmes are devoted to entertainment, and entertainment is an active force in the communication of values.

There is a need in the Arab states to link television programmes to the traditional or indigenous cultures, arts, and national heritages. There is a need to create programmes that will give authentic expression to cultures in their process of confrontation with modernity and social change. Several newly-established television production companies in the Arab states are trying to do exactly this. On May 4 1977 the Gulf States – Kuwait, Saudi Arabia, Iraq, UAE, Qatar and Bahrain – set up an organisation for the joint production of radio and television programmes that would reflect the distinctive cultural characteristics of the Gulf area. The new organisation, with its headquarters in Kuwait, is called 'The Arab States Organisation for Joint Production of Programmes.' Its first programme series will be the Arabic version of Sesame Street.[9] Also in 1977 the Egyptian Federation of Radio and Television established an Audio-Visual Production Company in Cairo, and provided it with studio facilities and funds. Before the establishment of these two organisations, there were many small private production companies in the Arab states, particularly in Kuwait and Egypt. The two new bodies will have the capacity to produce really quality programmes.

In most Arab states the ministries of communication are responsible for broadcasting's technical installations and operations. When the national broadcasting organisation gets going, it generally takes over these responsibilities. In the Sudan, the Ministry of Communication is responsible for the technical aspects of radio, and the Ministry of Information and Culture is responsible for radio programming. This division of authority between technical and programming operations has created friction and inefficiency.[10] When television was introduced the Ministry of Information and Culture assumed responsibility for the technical aspects of television from the outset, thereby avoiding the dilemma of split responsibility.

In the Gulf area, foreign companies are responsible for broadcasting's technical aspects. For instance, the maintenance of technical facilities in Saudi Arabia is a joint responsibility of the Saudi government and a foreign company. The British Cable and Wireless company was responsible for broadcast technical installations and operations in Bahrain until the government took over the facilities in 1975. In Oman the government holds a 50% share of the foreign company that operates the television station. Earth satellite stations in the Gulf area are also operated by Cable and Wireless, while a German company has some important responsibilities in this area.

The purposes and uses of television are seldom specified. When they are, no provisions are made for their implementation. Television is used mainly for entertainment and not for education and development. It is true that some broadcasting organisations (UAE, Bahrain, Saudi Arabia, Kuwait, Egypt, Algeria, Morocco) use their facilities for educational purposes and have followed the trend toward multi-media approaches, but in most States these efforts are fragmentary and badly planned. There is an urgent need for integrated national communications policies that define the scope and utilisation of media. With the introduction of satellite communication, the electronic media will have to take on greater responsibilities. The response to the spread of change in the sectors of education and culture has so far tended to be inadequate, or too slow.[11]

The exchange of programmes between Arab television stations has been limited, particularly in comparison with the high percentage of foreign programmes that each country buys from outside the region. Though the large majority of Arab States have Earth stations and are members of Intelsat no regular television news exchange or presentation existed until recently.[12] Some relays were sent from one state to another by satellite, and there were some exchanges of recorded programmes between two or more stations. Exchanges also took place between the ASBU (Arab States Broadcasting Union) and EBU (European Broadcasting Union), and in February 1977 five member states of ASBU joined the Eurovision News Exchange (EVN-O and EVN-1). In return, all Arab television organisations began to contribute items to Eurovision. Before the implementation of this agreement, Saudi Arabia, Qatar, Iraq, Kuwait and the UAR had received the Eurovision news package by relay from Channel 3 of French television.

The national networks of Tunisia, Algeria and Morocco had earlier joined together to form Magrebvision, and each country can take from and give to the other. For a period, news packages were exchanged between the Magreb Centre (Morocco) and Mashrek Centre (Jordan). The experiment, however, was short-lived and the exchange was ended. The cost was much too high for the limited returns. At this time, Arab broadcasting organisations relied heavily on Visnews. Its package, sent from London, was ten minutes long and consisted of selected world news of interest to the Arab World. Qatar, Dubai, Sudan, Saudi Arabia and Abu Dhabi, among others, recieved it.

With the establishment of the Arab Television News Exchange System in 1973 national television stations cover their own national news events and feed items to the Arab network.

The Arab News Exchange divides the Arab region into three sub-regions: Magreb; Mashrek and Gulf; and Peninsula. Its purpose is to increase the flow of visual news inside each sub-region, among the

various sub-regions, and between them and the outside world. Within one year all members of ASBU had joined the Exchange with some television organisations setting up special Exchange divisions. The Exchange's headquarters is in Riyadh and its initial capital amounted to $100 million. Eleven states -- Jordan, Bahrain, Tunisia, Saudi Arabia, Oman, Qatar, Kuwait, Libya, Egypt, The Arab Republic of Yemen and Lebanon -- have ratified its agreement and will bear 85% of its capital costs.

Intelsat satellites are frequently used in the Exchange and it is considered to be a good model for a regional satellite-based programme exchange network. A UNESCO mission invited by ASBU to study six Arab States concluded that the Arab area was ideal for television link-ups by means of satellite for cultural and educational purposes on the national level, in view of its common cultural, linguistic and geographical features.[13]

Several Arab countries have already asked the Arab Fund for Economic and Social Development, based in Kuwait, to finance a two-year UNESCO/UNDP Study Software Planning for the Arab Space Network. The study would cover audience needs, organisation, production facilities, recruitment and training. Egypt has offered to host the Study, and allocated $100,000 for the purpose. Meanwhile, the Arab Satellite Organisation (ASO) will be discussing questions of management and control with the Arab League, the Arab Telecommunication Union, the Arab States Broadcasting Union and the countries involved.

This paper has described the general characteristics of broadcasting systems in the Arab states. There is no doubt that the introduction of satellite communication will change the basic concepts of broadcasting and education in the Arab region and will revolutionise its communication systems, enabling the extension of national services, and greatly facilitating programm. exchanges between the countries of the region as well as international exchanges.

Notes:

1. Douglas A. Boyd, 'Development of Egypt's Radio: Voice of the Arabs under Nasser' *Journalism Quarterly*, Vol 52, No. 4, Winter 1975, pp 645-53.

2. Boyd (1975), op. cit., p 648.

3. Julian Hale, *Radio Power: Propaganda and International Broadcasting* (Philadelphia: Temple University Press, 1975) p 173.

4. Ithiel de Sola Pool, 'The Governance of Mass Communication: The Government, The Audience, and Social Groups' in Majid Teheranian et al., (eds), *Communication Policy for National Development: A Comparative Perspective* (London: Routledge & Kegan Paul, 1977) p 145.

5. Hamdy Kandil, Ahmed Youssef and Oly Berglond, *Gulf Television Network*, mimeographed, (Paris: UNESCO, 1975) p 36.

6. Iliya Harik, *The Political Mobilisation of Peasants: A Study of an Egyptian Community* Bloomington: Indiania University Press, 1974).

7. Kandil et al, (1975) op. cit., p 15.

8. Elihu Katz, 'Cultural Continuity and Change: The Role of Mass Media', in Majid Teheranian et al., *(eds), Communications Policy for National Development: A Comparative Perspective* (London: Routledge & Kegan Paul, 1977) p 114.

9. In 1974 and early 1975 the US Childrens Television Workshop (CTW) proposed to the Gulf States the production of an Arabic version of 'Sesame Street'. The Gulf States agreed to participate in the production, and the programme will be produced in the Gulf area.

10. Sydney W. Head, (ed), *Broadcasting in Africa: A Continental Survey of Radio and Televis* (Philadelphia: Temple University Press, 1974) p 48.

11. Edward W. Ploman, 'Communication Policy and Planning: A Comparative Perspective with Particular Emphasis on Broadcasting', in Majid Teheranian et al., (eds); *Communication Policy for National Development: A Comparative Perspective* (London: Routledge & Kegan Paul, 1977) p 54.

12. In 1974, only four TV stations in the Arab world had satellite Earth stations. By 1976, there were 17 Earth stations, most with capacity for both television transmission and reception, some with reception capacity only. Some of the States have more than one Earth station (most stations are

standard stations and a few are non-standard). In 8 states the stations are connected with the Atlantic ocean satellite, in 11 states with the Indian ocean satellite.

13. 'Arab Sates Confirm Satellite Plans', *InterMedia* (London: IIC) Vol 4, No. 5, October 1976, p 17.

THE FUTURE OF BROADCASTING IN SWEDEN

Jan-Otto Modig

The main reason why the Swedish government apppointed a Committee to look at the future development of broadcasting was that the Agreement between the government and Sveriges Radio was to expire on 30 June 1977 (this was later extended to 30 June 1978). Before drawing up a new Agreement, it was felt that the present arrangements should be evaluated.

The Parliamentary Committee started work in the Autumn of 1974. The government's directives asked the Committee to investigate the broad rules and conventions of broadcasting and stressed that the principles and guidelines concerning cultural policy that had been adopted by the Riksdag (parliament) in 1974, should also apply to broadcasting.

The various regulations governing the rights, freedoms and liabilities of Swedish broadcasting are set forth in two acts of Parliament (the *Radio Act* and the *Broadcasting Liability Act*, both of 1966) and in a special Agreement between the Government of Sweden and Sveriges Radio. This Agreement specifies the main organisation of Sveriges Radio and its sources of financing, prohibits commercial advertisement, etc. The Acts and the Agreement took effect on 1 July 1967, and the Agreement expires – after having been extended one year – on 30 June 1978.

The government of Sweden has traditionally vested Sveriges Radio (the Swedish Broadcasting Corporation) with the sole and exclusive rights to radio and television broadcasting as defined by law. The status of the Corporation resembles that of a non profit-making corporation (although it has been given the legal form of a joint-stock or limited company).

In 1975 an independent subsidiary to Sveriges Radio, Sveriges Lokalradio Aktiebolag, was set up to initiate local radio in 24 districts. The sole and exclusive rights to broadcasting, however, remained vested in Sveriges Radio. Local radio transmissions started in 1977. Parliament has also decided that a special subsidiary company, Sveriges Utbildningsradio AB, shall be formed to handle the production and broadcasting of educational programming. This subsidiary is expected to start broadcasting in 1978.

After three years of examining this system and considering possible recommendations, the Committee published its Report in April 1977. It did not suggest any major changes in the fundamental principles of broadcasting in Sweden. It did however, put a new, strong emphasis on the broadcasting media's responsibilities towards cultural policy. It stressed that the basic function of radio and television programming is to provide the public with programmes that offer information and cultural experiences. The Committee thought it neither advisable nor possible to define the frontiers between these two functions.

Broadcasting has a responsibility to protect the freedom of information and, in collaboration with the press, to make Swedish democracy more active. Radio and television (again, with the press) should have these four aims. It should give citizens the necessary information on current political affairs; conversely, it should inform the political establishment of public opinion. *Second*, it should present different views and values; provide comment; take stands, advise and stimulate opinion-making. *Third*, it should scrutinise and act as a check on authorities, organisations, enterprises and other organs of importance to the public (in the case of broadcasting, with due respect to the demands of facts and impartiality). *Fourth*, it should facilitate communication within and between different social groups.

The Committee feels that radio and television should be given a specific cultural responsibility; in other words, that broadcasting should be subject to society's overall goals of cultural policy. From the point of view of the audience, these cultural responsibilities imply exploiting to the full the media's capacity to provide and convey experiences with different forms of expression – words; sounds and pictures; form, motion and dramatic representation. Part of this responsibility is to meet people's need for entertainment. Programmes should become more accessible, and provide stimulation and diversion. At all times, the aim should be excellence. These characteristics of quality and accessibility should be evident in all categories of programming, whether the programme primary purpose is to inform or to entertain.

From the point of view of the broadcasting organisation, this increased cultural responsibility should mean that more resources (time, people, money) are allocated to creative, artistic, programming, and that the organisation draws on creative talent (writers, cameramen, etc.) both from its own staff and from outside.

The report also suggests that Sveriges Radio should guarantee its programme units' independence and integrity in the face of external pressure. It should encourage diversity by giving a large measure of freedom and initiative to personnel, editorial staffs and programme units. It should facilitate public insight into programming activities and stimulate high programme standards. It should make itself more open to the participation of independent cultural workers, journalists and similar groups and achieve larger functional and geographical decentralisation. Finally, it should be rational and efficient.

The Committee said that the present organisation functions well and in accordance with the provisions laid down by the authorities in 1966. It considered that, overall, Sveriges Radio had managed to alleviate the tensions inherent in the system. However, the Committee did propose major changes in two areas: (1) the relationship between the regional 'district' and the central programme units; and (2) planning. The Committee proposed several structural alterations. The main broadcasting activities should remain with Sveriges Radio. Local radio, which is presently run by a special company, subsidiary to Sveriges Radio, should maintain its affiliation with the corporation. But educational broadcasting, which is also organised as a subsidiary company to Sveriges Radio, should be made independent.

The Committee also wanted to increase the independence of the programme units, and to generally increase decentralisation. It proposed three main programme units, one for radio and two for television. The production facilities for radio should be spread all over the country. But TV production should be split between TV-S, with national transmissions in Stockholm, and TV-R with facilities outside Stockholm. TV-R, on the second channel, would produce both national and regional programmes.

Sveriges Radio's eleven regional districts, which now produce both radio and television, should be reorganised. All regional TV activities should be given to TV-R and organised in nine regions, which would produce programmes for national transmission and produce and transmit regional programmes. The radio programme unit would establish its own regional radio districts. The present Central News Services would be divided between the three main programme units. The External Broadcasts unit would cease to be independent and would be integrated into the radio programme unit. All operational departments and sections within the engineering unit would be integrated into the programme units. A central engineering department, however, would continue to retain overall responsibility for the technical quality of programmes.

Both television units (eg, TV-S and TV-R) should have approximately the same obligations and, in principle, equal opportunities to fulfil their obligations. Since their internal structures are different, this mutual equity could imply that they should receive different economic, staff and technical resources. A priority for the corporation management will be the continuous adjustment of differing needs between the television programme units.

TV-R, it is suggested, should produce some programmes for national transmission and some special regional programmes for transmission in the nine regions. It would have to buy many of its programmes from other companies and from TV-S, especially during the build-up period. Throughout, TV-R and TV-S should have the same mix of programmes. TV-S would be responsible for television activities in Stockholm. It would consist of the existing programme departments of the present two TV channels, and the main part of the production facilities in Stockholm. TV-S would be responsible for nationally transmitted programmes only.

To broaden contacts between the public and the broadcasting organisations, the Committee proposed setting up one audience council in each of TV-R's nine regions. These councils would deal with matters of programming and programme policy for both radio and television, and would be purely advisory.

The Committee proposed an extension of the weekly programme schedule for both radio and television. Television should increase its broadcasts from 80 to 100 hours/weekly (on the two channels) and radio should be given 60 hours more to reach 440 hours/week on its three channels. (In this context it must be pointed out that television in Sweden is broadcast only during the late afternoon hours and in the evening; radio is broadcast around the clock only on one of the three channels). It is specifically stated by the Committee that the prime motive of this increase is not to get larger audiences, but to give people a better service, and to reach new groups with new types of programmes. Thus a substantial part of the additional hours of television should be used for carefully planned repeats. The desire to increase radio and TV production outside Stockholm is another motive for an extension of programme hours; so are proposed programmes aimed at different minority groups.

That a high audience rating is no decisive measure of programme quality was especially stressed by the Committee. It is more important to increase the satisfaction of each individual viewer or listener than to increase the amount of time that people spend watching television or listening to radio. High programme standards are conducive to this effort, and several different measures are proposed. One of the more important proposals concern the greater participation of free-lancers (artists, journalists, scientific and academic experts and other such professionals). Not only does participation by free-lancers of this kind increase the quality and diversion of programming but it also enhances the media's freedom of expression. Another aspect of programme quality is the accessibility of programmes; in other words, people's opportunities to watch or listen and/or their chances to understand what they see and hear. Proposals include a day-time programme block of approximately three hours in television, and more repeats. Various types of dramatisation and adaptation should be used to make it easier for people to understand the contents of programmes.

Press criticism of the Report has generally been rather negative. It has concentrated on three issues: (1) the organisation of television; (2) the audience councils; and (3) the development of regional television. The proposed television system of TV-S based on the production facilities in Stockholm and TV-R based on production facilities in the regions, has received very negative criticism. The proposal involves a major and costly reorganisation which – among other negative effects – is feared will cause a drop in programme standards. It is also argued that there is not enough programme material (human and otherwise) in the country for such an extended and decentralised system of production. It is also claimed that the integrity of broadcasting – especially that of TV-R – would be hampered. A small unit like a region, it is said, would find it more difficult to resist outside pressures than a larger, consolidated organisation.

The proposal for Audience Councils has been the target of strong criticism. The main brunt of the criticism is that the councils could be a serious threat to the integrity of Sveriges Radio. The extension of regional television (regionally-transmitted programmes, mainly news) is also said to be too expensive in view of the service it would offer the general public. The money would be better spent on Local Radio, which is presently under-budgeted and under-staffed.

The Committee's deliberations on programme policy matters and the responsibilities and functions of broadcast media have been more favourably received. The importance given to cultural responsibilities has won general acclaim, as has the discussion of quality. The Committee has very little to say, however, about the future development of the technical matters. The project of a joint satellite serving the four Nordic countries could basically change the situation of broadcasting in both programming and organisation in these countries, but is hardly mentioned.

7. INFORMATION AND TELECOMMUNICATIONS

The convergence of telecommunications, broadcasting and the wide range of new information services demands attention, both at the many points of overlap and in each activity. Telecommunications and broadcasting have occupied very different places in society, operating according to utterly different principles, and with different intentions. The movement from this separateness, even isolation, towards convergence may generate tension and misunderstanding, while opening up new opportunities.

TECHNOLOGICAL CHANGE AND MEDIA DIVERSITY

Michael Tyler

To the bewildered observer, the headlong development of technology in the world of communications must surely appear as exotic – and perhaps alarming – as the contents of a jungle to an unarmed non-zoologist. What are we to make of the ceaseless innovations in services such as teletext, videotelephones, interactive cable television, videodiscs, electronic mail, or direct satellite broadcasting, to select but a few. Even more perplexing are the basic technologies that drive them: large scale integration (LSI) of semiconductors and other devices, microprocessors, cheap mass-storage, digital transmission, optical fibres, advanced software and the like?

The purpose of this brief paper is to suggest that we can indeed make systematic sense of these developments and their implications, and relate those implications to the social and economic objectives with which the International Institute of Communications has traditionally been concerned,but only if we abandon the narrow perspectives indicated by the more restrictive of such categories as 'broadcasting', 'publishing' or 'telecommunications'.

I begin by suggesting two general principles to the would-be tamer of the technological jungle. The first is that the only features of the technology that are of interest to the non-technologist are those that modify the *service* that is offered. We do not need to know that the 'Storage Medium A' that is replacing 'Storage Medium B' involves the use of magnetic bubbles, if its relevance to us is simply that it lowers the costs of a Viewdata information-retrieval or message system in a specific kind of way.

The second principle is that *names* are misleading. It is much more useful to think of services in terms of specific combinations of *attributes*. To do so makes us more aware of what they *do* and can also help us identify 'gaps' in the overall spectrum of services, since in the past the specific 'bundles' of attributes to be offered were often chosen quite idiosyncratically. (Why, for example, offer a full-motion low-definition, video telephone before a slow-motion, high-definition remote-scribble-pad or graphics terminal?)

Some of the service attributes that are most relevant to current development and current debates include:

- one-to-one/one-to-several/one-to-many.
- one-way/two-way.
- video/graphic/alpha-numeric (text)/audio.
- synchronous/asynchronous.
- fixed/mobile.
- switched-selective/unselective.
- originator selection of content/destination selection of content.

It is instructive to apply these notions to the familiar world of television and the telephone. We then find that television is a:

- one-to-many, one-way, audio-video, synchronous and more-or-less mobile mode of communication, with only a very limited degree of selectivity (the only 'switching' control the audience has is in the tuner of the television set) and with the overwhelmingly larger part of the selection of content being carried out by the programme originators.

In many ways, the telephone service lies at exactly the opposite end of the continuum of service possibilities. For example:

- television has full-motion video capability, while telephone offers low-fidelity audio only.
- the basic telephone service is a one-to-one switched service, whereas television is one-to-many and unswitched.
- whereas the originator (largely) selects the content of television programming, 'content' in a telephone conversation depends on both parties.

– telephone is two-way and television is one-way.

Why is there so little, apart from radio, in the spectrum between these two extremes? The answer seems to be largely technological and economic. At one extreme, the traditionally high fixed cost of television programming and distribution tended to 'freeze' broadcasting into its familiar pattern, as did the economic and technological barriers to greater variety, selectivity and to two-way operations. Now both technological change – reflected in falling costs and in technological innovations such as interactive cable television – and social innovation in the world of local and special-interest broadcasting are beginning to break down many of the traditional assumptions about broadcasting.

The development of telephone technology is converging on the same 'middle ground'. For many years the economic superiority of radio transmission for broadcasting purposes obscured the potential of switched systems such as the telephone network – although in the early days telephone broadcasting applications such as Budapest's 'talking newspaper' were widespread. The appearance of versatile automatic telephone networks as a result of applying computer ('stored programme control') technology and low cost storage has greatly increased interest in applications such as small-group broadcasting or recorded-voice 'publishing'.

From this perspective, it is interesting to consider certain dimensions along which television and the telephone are not opposites at all, but quite similar. Neither medium, in its conventional form, is to any significant extent a channel for textual information. Both media are synchronous so that all messages are, from the recipients point of view, ephemeral, and cannot be recalled and reviewed. Increasingly, of course, additional capabilities can be provided by new terminal equipment – as in the case of videotape recording or sophisticated telephone recording machines – but it is still the arrival of new technology *within* the telephone network that is driving some of the most significant innovations. Some of the most significant areas of technological change are:

- Cheaper and more versatile transmission technologies, such as digital techniques, packet switching and optical fibres.
- The introduction of 'intelligence' in the form of programme-controlled processors to control switching and other functions.
- The appearance of low cost, high capacity memory devices – notably various kinds of solid state devices such as semiconductor and magnetic bubble memories.
- The appearance of 'intelligent' terminals exploiting the capabilities of integrated circuits or microprocessor technology.

Given these innovations, we can contemplate services which are radically different from those presently provided. Wouldn't it be interesting, for example, to have a text-and-graphics publishing medium akin to the printed media, which could be characterized as follows:

- text-and-graphic.
- ,one-way,
- switched.
- content controlled by recipient

By an asynchronous service, we mean one that stores and retrieves information on demand. The 'abstract' description will of course be recognised by many as a description of teletext, and in particular the switched version that uses the telephone infra structure – pioneered in the UK under the name Viewdata – and employs the domestic television receiver, suitably adapted, as a display device.

There is no space here to consider in depth the social and economic implications of the increasingly multi-dimensional range of services implied by the changes sketched out here. It is clear, however, that the Sloan Commission's concept of the 'television of abundance' no longer seems as extravagant as it did a few years ago during the 'age of disillusionment' with cable television. If we translate the phrase to read 'the telecommunications of abundance', the reality is clear: the barriers that stand between us and a much richer range of communication options are coming down. Even two of these, taken almost at random, will illustrate the significance of this: how will the future world of communication look if there are only negligible barriers to book or periodical publishing with wide distribution; or to small-group, specialized, low budget 'broadcasting' over a large region via the public switched telephone network (or its evolutionary successor) or via interconnected cable television.

TELECOMMUNICATIONS AND REGIONAL DEVELOPMENT IN SWEDEN

Thomas Ohlin

Access to information can be seen as a fundamental resource in society: a resource whose value is increasing rapidly. Its significance relates not only to the increasingly efficient systems of mass communication but also to the increasingly interesting new forms of two-way communication that computer technology has made available and which will soon be economically viable.

We can no longer draw a sharp distinction between mass communication and selective or personal communication. The availability of new services such as computer conferencing and Viewdata has blurred many of the traditional differences. The wide family of input/output equipment that can be used brings the two activities closer together. The home, facsimile-printed, newspaper is one technological achievement that – when it comes – will undoubtedly underpin this revolution in information distribution.

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The kinds of information that the new computerised media will be able to transmit are numberless. There is simply no limit.

Information now seems to be of *primary* importance. As a resource, seen in a macro-perspective, it may even rate above economic resources such as raw materials. We have to exchange information before we can get down to any business. (possibly there is a hidden chicken-and-egg problem here). 'Information power' is increasing, and with it the usual planning and distribution possibilities and problems.

The studies described below were undertaken in Sweden to shed light on the use of 'information power' to give strength to various regional areas. The studies are quantitatively limited, so far, but the principles behind them should be of general interest.

The question to be answered was simply whether there were any information and telecommunication aids that could be used to promote regional development and improve regional balance. To find some answers, a small Working Group was formed in Sweden in early 1975 and asked to suggest some practical experiments. The work was to be a kind of technology assessment, but in an area where the technological bounds and restrictions were minimal.

The problem was primarily the definition of social development needs. Do these needs call for some kind of expanded communications technology; and if so, is the new telecommunications technology relevant? This kind of assessment is socially motivated, and carried out in only a few countries.

The Working Group had members from the National Swedish Board for Technical Development, the National Telecommunications Administration, the Expert Board for Regional Development (Ministry of Labour), the Secretariat for Future Studies (Cabinet Officer), and the Swedish Association of Local Authorities.

It soon realised that in certain environments, like the one in question, the particular choice of the technology itself is not the primary problem. Of course, investments in things like new cable systems in rural areas are very resource-consuming. But the primary task is the definition of the region's information needs.

These information needs have to be considered in the local context. They cannot be defined by central authorities who do not have close, practical contacts within the region.

By the beginning of 1976 the Working Group had completed a Contact Report. Local authorities and other organisations who might be involved were asked for comments before any definite suggestions about expanded telecommunication systems were put forward.

The Report discussed several possible areas in which telecommunication could help: employment; housing; transport; education; health services; other social services; social communion; culture and leisure activities; and the external environment. The Working Group and the central regional authorities selected a number of regions as possible places for further study. The list concentrated on regions that were already considered as important in terms of Sweden's existing regional policy.

A number of projects were selected for implementation. They are regarded as only the first of many possible steps. The work is likely to continue.

1. The Promotion of Local Small-scale Business

This project deals with increased interaction between small firms. It aims to give small-scale business firms in peripheral locations some of the advantages of resource-sharing (external economies) normally available only in larger and more dense urban centres. Examples are the joint sharing of expert consultancies, new product-testing equipment, documentation, lists of potential customers and suppliers within the region covered, etc.

A further and possibly crucial benefit is the sharing of experience by direct interaction between the companies, and interaction with university researchers.

2. Health Care

Considerable experience already exists in using different levels of computerised information service for health care. The present project focuses on certain aspects of information distribution in rural environments. The first aim is to make the local planning of mobile nurses, 'home-first-aiders' more efficient with the use of portable terminals that allow access to advanced computing resources.

Secondly, several regional hospitals will pool their specialist knowledge. The more distant hospitals often lack specialist knowledge in important fields. It has often happened that the required knowledge on a difficult time-critical medical problem has not been available at the right moment. Highly efficient telecommunications nodes, reaching a limited number of specialists, will give distant hospitals immediate access to knowledge centres in many fields.

3. Distributed Education

Discussions have been held about the different models of distributing education with the help of telecommunications. It is thought that complex systems of the type usually called computer-aided-instruction (CAI) involve at the moment a too heavy an investment in systems (although some interesting CAI experiments are at the moment being tested in Sweden).

4. Increased communication for the handicapped

One project will increase the possibilities of communication for groups of individuals with impaired hearing. The main tool is a computer-supported typewriter terminal. An especially interesting possibility is for 'outside' persons to join the groups from time to time and to provide information about external news, cultural events, expanded contacts etc. Thus, dynamic 'windows' to the outside can be created.

5. Telecommunications and energy consumption

A special study is being undertaken into the use of telecommunications as a substitute for travel. The main criterion is energy consumption. The study investigates the interplay between actual travel parameters; and studies the possibility of replacing an individual's physical travel by the use of telecommunications. The indirect effects on regional development are also studied. A further area of discussion concerns the so-called 'paperless office' and the possibilities of working at home. So far, however, only limited information has been documented in this field.

This analysis of information uses and distribution as a means of promoting regional development in Sweden suggests several basic principles.

A high priority is given to information access and availability, suggesting a concentration on two-way, narrowband technology. The analysis also suggests projects of an incremental nature, favouring an early start in limited quantities. This flexible approach stresses user influence and local initiatives. This initially somewhat scattered family of pilot projects will become more and more concentrated in the next phase. The emphasis will be put on two or three especially important project areas.

As the work continues, it will be possible to apply more and more rigorous methods of social assessment. All kinds of measurable side-effects will be taken care of. In the initial phase, the projects will be entirely funded by the government. Later on, the possibilities of joint private/public funding will be investigated.

These regionally-oriented projects are intended to expand knowledge about 'information power' and

its possibilities in society. We must ask if an information society is essentially regional, and whether we should concentrate on local needs. Our future communication systems may well contain basic nodes of a more and more local nature. This is a subject for the most thorough investigation.

TELECOMMUNICATIONS PLANNING IN AUSTRALIA

Frank Wion

In 1973 a special telecommunications planning group was established in the (then) Australian Post Office (APO). The special group was called the National Telecommunications Planning Branch (NTP), and given a charter to identify future community telecommunication needs and make policy recommendations to management and government.

The APO had a well-established tradition of telecommunications planning, with a large professionally-led staff. The primary emphasis of its planning was on technical aspects and Australia, as a result, has a modern and effective telecommunications network. However, in the early 1970s there was a growing recognition within the organisation that telecommunications technologies were developing very rapidly indeed and that futurologists were increasingly speculating about new generations of telecommunications media which would have a similar impact on the society of the twenty-first century as that of the telephone on the society of this century.

We were aware in Australia that there was a burgeoning network of broadband coaxial cables, provided for conventional telecommunications traffic, but which could support only limited numbers of broadband services. Further, the number of data services for business subscribers was increasing; the emergence of householders' data services would require major resources and new planning approaches. The introduction of the Bell Picturephone in the USA, coupled with talk about 'the wired city', 'the information based society' and 'the post-industrial society', served to heighten the uncertanties. Guidelines were required to make the transition to this glowing future as free of uncertainty, and as efficient and effective, as possible.

This new awareness was the background to the the establishment of NTP. It was recognised that the emergence of new telecommunications related in some way to social factors, and that new communications media could become woven into the fabric of society, influencing the directions of social change, just as the telephone has done. Accordingly, the NTP team was not established as a solely technical planning group, but included people with social science, marketing research, and economics backgrounds in addition to engineering. The team members interacted frequently at meetings and discussions in an approach to interdisciplinary decision making.

Institutional Factors

NTP's review of telecommunications was limited to matters which are, or might become, the concern of Telecom Australia. (In June 1975 the newly formed Australia Telecommunications Commission, trading as Telecom Australia,took over the telecommunications activities of the APO). Telecom Australia provides public telecommunication network services within Australia. A separate body, the Overseas Telecommunications Commission, handles international traffic as it enters or leaves the national networks.

Telecom Australia is a large user of the radiofrequency spectrum, but responsibility for regulating the spectrum rests with the government's Department of Posts and Telecommunications. One of Telecom Australia's interests in the future of broadcasting is that mobile radio services will be competing with broadcasting in future for VHF and UHF spectrum. Close co-operation will be required in future between the various authorities to ensure that the spectrum is used in the best interest of the community.

The responsibility for regulating public broadcasting rests with the Australian Broadcasting Tribunal. However, virtually all landlines used by broadcasters are provided and owned by Telecom Australia. Similarly, the Telecom Australia monopoly extends to the provision and ownership of cables for cable television services. (This power has been waived by licencing for the very small number of cable TV systems existing in Australia at present — about 600 subscribers in total — operating in areas of poor television reception).

Thus Telecom Australia's long term concern with broadcasting (and printed news services) is not with the regulation or generation of message content, but with the prospect that an increasing demand for wired services could lead to a merging of the broadcasting and telecommunications media.

NTP Activities

The NTP study programme contained four main thrusts which proceeded more or less simultaneously:

- An examination of the technological possibilities that would set the bounds of services which might become available in the latter part of this century. This examination would assist R & D investment decisions.
- An examination of the macro-economic and micro-economic factors that would limit either the demand for services or the resources available for the production of new services.
- An examination of the social factors that could point to future demands for service or the consequences of adoption of particular services.
- A series of public seminars to generate discussion with particular user groups about their perceived needs for telecommunication services in the future.

Early in the work it became apparent that neither conventional market research techniques nor the skills of social scientists could generate long range predictions of demand for new types of telecommunications service. On the other hand, the social sciences had developed some dynamic social models. These could be an aid to forecasting by generating likely social trends that could be of significance to the planner of telecommunication services. Another allied technique was to identify 'leading-edge' social trends, observable in current society, that might become the dominant trends of the future. In the event, the social science study programme led to conclusions and recommendations which appear to offer at least partial solutions to the dilemma of future uncertainty.

Early in 1976, the findings of the NTP group were presented as a report, *Telecom 2000*, to the management and commissioners of Telecom Australia. Because of the nature of many of the issues raised, the report was distributed to the public, and comments invited. The report was to be examined within Telecom Australia, and final decisions reached, only in the light of the public responses.

The Telecom 2000 Report

The report surveyed the technical, social, economic and financial aspects of telecommunications. Separate chapters were devoted to mobile services, cable TV, telecomputing, visual services and criteria for selecting services for development. Leaving aside the recommendations, some of the conclusions reached in the report were as follows:

- Information is playing an increasing role in developed economics. This is likely to lead to increased demands for the transmission of non-voice information.
- The Australian economy is expected to have enough capacity to support high levels of demand for new types of telecommunications service, if such demands occur.
- There is no justification in Australia for rushing to develop expensive new broadband distribution networks with present-day technologies. There are rapid developments in the relevant technologies, and the demand for new services is very speculative.
- Optical fibre transmission seems a very important future technology for telecommunication purposes over both long distances and for end-distribution to subscribers' premises.
- Cable television does not appear to have the promise in Australia that overseas experience might suggest. There are significant differences in geographic and institutional factors.
- The telephone service is becoming increasingly important to people, and more of a social necessity than it was a few decades ago.
- Particular telecommunications technologies do not have inherent social consequences which can be studied in advance. The critical factor is the way in which society organises and uses technology.
- People cannot make meaningful decisions about the uses of new telecommunications technology without having had direct experience.
- Society is passing into a phase where change, uncertainty and the questioning of established values will become more common than in the past. Organisations will have to adapt to these conditions to ensure long term survival. Many past strategies will not be adequate in future.

The main recommendations of the report are summarised below, under eight headings

(i) Telecom Australia's Relationship with Society

- Support the principle of open planning and try to achieve closer links with telecommunication users and society at large; explore the possibility of forming user representative groups, consultative bodies, and bodies to 'mediate' between Telecom Australia and community interest groups;
- Start on a planned programme of field research into advanced telecommunications services with an emphasis on user involvement and the social and psychological aspects of new services; advanced services should be introduced only after comprehensive trials.

(ii) Monitoring the Environment

- Support a programme of interdisciplinary studies of future telecommunications;
- Strengthen the machinery to monitor the changing economic, social and technological environment and provide a focal point to Telecom Australia's involvement in national politics having telecommunications implications.

(iii) Monopoly and Competition

- In the interest of conserving national resources, Telecom Australia should retain its present monopoly of public common-carrier telecommunication systems, but examine the possibility of further introducing competition in appropriate areas.

(iv) Internal Organisation

- Further develop organisational structure and planning processes along decentralised lines, with progressive devolution of decision-making to regional and local levels.

(v) Marketing

- Sponsor studies to identify the broader social and economic benefits of telecommunications; in the provision of new services, try to avoid widening social inequalities;
- Support the provision of new services that exploit the latent capabilities of the existing network, with early attention to facsimile, visual information services, and teleconference services;
- Introduce and actively market a public, automatic, mobile radio telephone service with full access to the telephone network.

(vi) Technology

- Give increased emphasis to studies of the network characteristics of existing plant to facilitate the most effective use of the present network for new services;
- Continue network studies on the rate of transition to digital technologies in transmission and switching; give priority to providing a digital transmission capability on routes with high data traffic potential;
- Sponsor a programme of research and development on optical fibre systems.
- Consider increasing the size of underground pipes for cable distribution.

(vii) Computer Communication

- Foster the harmonious development of the telecommunications and computing sectors with particular reference to the development of mutually compatible technical standards and the safeguarding of individual freedoms;
- Support the principle of separating the ownership of public data communications and public data processing functions. (This, of course, is to ensure that the same authority does not control both the transmission of data and its processing).

(viii) Cable Television

- Physical transmission plant for cable television to be provided by Telecom Australia;
- Support the principle of separating the ownership and operation of cable television systems;
- New cable television systems to have a minimum capacity of 20 channels, with one channel being reserved to public access;
- Support the establishment of a high-level examination of the future relationships between public telecommunications and the mass media, with initial attention to outstanding aspects of cable television.

Public Response

As mentioned previously, the *Telecom 2000* report was made available for public comment. About 20,000 copies of the report were distributed. There were 210 written responses, of which 99 were little more than formal acknowledgements. Most of the remaining responses dealt with the report in some depth. The written responses were supplemented by numerous discussions at seminars and with interested individuals. Of the 111 written responses that had some discussion of the report, the sources were as follows:

Academics/Students	41
Telecom Australia individuals and groups	9
Telecommunication industry	6
Computer industry	3
Banking industry	2
Other industry	8

Government bodies:	
Federal	6
State	7
Local	5
Libraries	4
Media	4
Social Service and Community groups	4
Individuals	12

The level of the written responses, particularly from non-academic sources, supports the view that telecommunications planning matters are rated fairly low on most peoples' agendas. Most responses came from members of interest groups. This fact suggests that open planning would, initially, be best implemented by using interest groups rather than representatives of the general public.

The predominant theme among the responses was concern over the social effects of telecommunications services, and particularly of the consequences of possible future services. Various approaches were suggested to avoid particular effects experienced or predicted by individual respondents. There was a recurrent implication that the fault was Telecom Australia's preoccupation with supplying devices rather than services.

It is not surprising, therefore, that there was more opposition than enthusiasm for the new types of service employing 'high technology', as described in the more technical chapters of *Telecom 2000*. Fears were expressed that sophisticated services could be provided only at high cost, and that they would have to be subsidised by the users of the ordinary telephone services. The feeling seems to be fairly common that the application of more technology is not the way to solve problems, either in the business world or in society. On the other hand, Telecom Australia was repeatedly urged to make the most of technologies that utilise the existing network. Many respondents regarded a telephone in every home as a socially desirable objective.

Few responses made any significant reference to cable television, even though *Telecom 2000* devoted a chapter to it. Those that did were not concerned with television programmes, but with other wideband services that might be added, or with the comparative advantages of cable and radio for broadcasting.

Telecom 2000 had put forward the concept of 'open planning' as a way of matching the development of new services to the needs of society. More responses commented on open planning than on any other matter. Although *Telecom 2000* contained no recommendations on the means of implementing open planning, the responses confirm that the need is growing for some form of consultation with the public on planning matters. Some respondents were very cynical about the recommendations that advocated open planning, and claimed that Telecom Australia was too closed, paternalistic, bureaucratically-rigid and technically-oriented to allow any outside interference in decision making. Other were cautiously optimistic that open planning might be successful. Almost all respondents thought that there would be serious obstacles. There would be a need for changes in attitude throughout Telecom Australia and society, and for a wider public understanding of telecommunications. One respondent envisaged (and, in the view of NTP, realistically) that, with an active and continuing programme of public education, a period of at least 10 to 15 years would be needed, during which open planning might gradually evolve to full effectiveness.

One important process by which Telecom Australia and the public might learn of the implications of new types of services is the kind of field research described in *Telecom 2000* and welcomed by many respondents. This is a form of experimental programme, conducted jointly with selected communities, to determine how a new service might best serve the needs of customers and societies.

The monopoly position of Telecom Australia was broached several times. The stand taken in the report was that the present position in the provision, ownership and operation of the basic network should not be altered. (The control of telecommunications in Australia is similar to that in British/European model). However, the report also recognised that there could be advantages in competition in selected areas of telecommunications, and recommended that this subject be further explored. The relevant discussion and recommendations attracted a lot of comment, mostly in favour of some competition. A few respondents thought that the reasons given in support of a government monopoly were very dubious; but no-one disagreed outright with the principle of the basic telephone network being a monopoly. Many users, strongly favouring a relaxation in the policies applying to terminals and the use of leased private lines, thought that the chances of getting satisfaction would be very much greater if private industry were allowed to enter the field more freely. In this context, value-added networks were mentioned several times. It was suggested that an independent examination should be made into the merits of competition in areas other than the switched public networks.

Telecom 2000 had suggested that because of the continuing, or even increasing, reliance of society on information transfer, the proportion of national resources devoted to telecommunications would remain at the present level of about 4.5% of Gross Fixed Capital Expenditure (GFCE). However it mentioned the possibility of a somewhat greater proportion, up to 6% or even 7% of GFCE, if warranted by future demand. This was disturbing to some respondents, who either represented the other sectors of the economy that would be competing for resources, or felt that such a proliferation of telecommunications would be socially undesirable. The social arguments referred either to issues of civil rights and privacy, or to the possibility that telecommunications would displace more personal means of communication.

A Model for the Future

The report's recommendations are now under study by line management in Telecom Australia. At the time of writing it seems likely that most recommendations will be accepted for immediate action or for later action at an appropriate time. Some of the recommendations, such as 'open planning', will require further development of specific proposals before action can be taken. NTP will continue operating as a policy research unit until after all the actions flowing from the *Telecom 2000* report are completed.

In conculsion it is appropriate to review the usefulness and effectiveness so far of the *Telecom 2000* exercise. Among the responses to the report there was widespread appreciation that the exercise had been attempted, and that Telecom Australia had made the report available for public study and discussion.

In its general approach and conclusions the report was a significant break with past tradition, and must have astonished many people in Telecom Australia. There is clear evidence that the underlying spirit of *Telecom 2000* – its awareness of social responsibilities – is now growing within the organisation. This has complemented the shift from a production orientation to a marketing orientation since the vesting of Telecom Australia in 1975. NTP was also one of the first policy research units established in Australia to deal with long range planning. The NTP experience may provide a model for other groups which will help Australia and perhaps other countries deal with the uncertainties of the future.

Acknowledgement

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8. THE INDIVIDUAL AND CHOICE

A major attraction of many new communication services is their promise of a wider choice. The public interest is in a greater access to both the production and reception of a whole range of information messages (matching similar trends in education, medicine, etc). The growth of Citizens Band two-way radio, the astonishing Italian passion for private TV and radio stations, and the evolving plans for videocassettes and videodiscs are perhaps the best-known services. But there are many others: two-way video services; the various teletext services; private networks; data banks; computer communications, and so on. The following papers deal with some of these innovations in the context of the USA, and discusses the nature of the wider choice that is being offered.

A REVOLUTION IN PERSONAL COMMUNICATIONS: SOME THOUGHTS ABOUT CITIZENS BAND RADIO

Bert Cowlan

The popular press has written much about the phenomena of Citizens Band much of it designed to either shock of titillate. There have been dictionaries of CB slang, some of which borders on what used to be called the unprintable. There is even a tabloid publication called *CB Bible*. And there are some slick magazines; they tend to feature ladies in deep decolletage draped over the newest gadget. All this could be described in detail; but I prefer to talk about the pheomena as I perceive it and to state what I feel needs to be known about it in order to make some valid judgements of CB as a communications medium.

Let me start from an overall perspective of what may be happening in American life (and let me emphasise that I would not be so presumptuous as to comment on the other cultures I do not know as well where the CB phenomena is beginning to surface, such as Canada, Australia and Mexico) and then see how and where CB might fit into current lifestyle or lack of it.

The literature of sociology, of psychology and behaviour, and political science, both academic and popular, is increasingly pointing to the sense of alienation that Americans feel from their institutions and their media, and to their frustrations in attempts to create change. On just one institutional level, it is predicted that fewer Americans will vote in each election than did in the last one. On the communications level, surrounded as we are with the richest communications ambience in the world in terms of quantity, people see their mass media as possessing less and less credibility, as providing less satisfaction and less reliability.

Yet people need to communicate in order to fulfil certain hungers of the mind and soul, in order to re-create a sense of community, to re-establish contact with an increasingly impersonal existence, to re-acquire satisfactions from media that are not being met. The old institutions are not meeting needs, especially in the electronic media.

People, though, seem to be doing something about this. They have found a medium for *themselves;* they are turning to it in ever increasing numbers; they are devising their own protocols for its use; and they are developing a formidable political lobby to ensure its development. They are, in short, mounting and managing the first telecommunications system ever created from the bottom up, rather than from the top down. That system is Citizens Band radio, a medium which is now licensed to some 20,000,000 Americans in their homes and trucks and cars, and even in 'walkie-talkie' form (and it is believed, on good authority that there may be 25-50% again as many unlicensed transmitters and receivers in current use).

It is a medium which permits one to communicate to one or to many. It is in stark contrast to the existing structure of mass communications. While it is sometimes used frivolously, more often, especially in heartland America, it is not. No complicated technical knowledge is needed to enter into this culture; licensing is simple and inexpensive; the price of entry can be quite moderate and the equipment is easy to operate. The medium further provides (and this may be one of the incentives for involvement) the capability for anonymity; one chooses a 'handle' (a 'nom d'airwaves', as it were) to identify oneself. It can be suspected one also chooses in that same process a 'personality'.

Much has been written about the statistics of CB. But very little has been seriously written about *why* people are entering upon this kind of communication at an exponential rate. And even less has been written about the awareness that this represents a popular communications system, managed by the users, the people themselves. Finally, there has been a dearth of serious speculation about what it means and where it is going (perhaps, taking us along in the process).

CB has, of course, had forerunners. It did not bloom in isolation. First, the Pony Express sped personal communications across the country. (It, too, had predecessors; at the time of Darius the Great, Emperor of Persia, a system of runners carried mail from one end of the nation to another in seven days). The telegraph accelerated both the process and the volume. With the telephone, both grew explosively. These media were all two-way. Radio, followed by television, was one-way, as was TV. (There was one exception in radio, 'ham' radio, which maintained the two-way aspects of earlier media, but was only for the use of a limited elite with the technical knowledge and skills and the ability to buy and operate costly and complicated equipment). Perhaps the first sign of the growing frustration with one-way communications in the mass media was the development, the growth, and the popularity of the 'call-in' shows on radio which allowed the frustrated citizen some entry into what had become a major communications system.

But 'talk-radio' was a system which placed buffers between the communicator and the citizen. One had to use a telephone to gain entry (and pay for it); one had to go through a producer (or some other screening mechanism or gatekeeper); one had to give a name and address (or at least a verifiable telephone number); one had to put up with a seven second delay loop in the system (to screen out both obscenity and other elements not wanted by the producer); and, perhaps most importantly, the show's host was in complete control and could (and sometimes did, abusively) cut off the caller at whim.

During the heyday of these systems, several attempts were made to improve personal communications. CB radio tends to be historically associated with the truck drivers who used it to inform each other of road condition, police traps and the like during the energy crisis (and the resultant decrease of the speed limit to 55 miles per hour which, it was claimed, decreased a truck's cost-effectiveness). But, much earlier, truck drivers had developed their own 'language' and communications system, which was surprisingly sophisticated in terms of message content capability. An elaborate protocol of signalling by lights (headlamps, flashers, side and rear lamps) was in use for many years, and used specifically for transmission of the same kind of information now being transmitted via CB radio. Also at this time there was a proliferation of mobile telephones in automobiles and boats (primarily for reasons of commerce and safety; the first is exemplified by taxicab radios); of paging devices (for doctors originally, now widely used by such technicians as typewriter repairmen); and of computer communications, either through a human interface or computer-to-computer.

The growth of CB was probably stimulated because earlier person-to-person communications (mail, telephone, telegraph) were becoming increasingly expensive and often less reliable. At the same time, the transistor and the new 'chip' technology made electronic communications less costly, smaller, more rugged, and thus better able to compete. This, of course, is only one set of reasons; CB offers the highest degree of mobility of any of the existing personal systems, coupled with the aforementioned anonymity, its ease of access and its factors of ownership and control. There are undoubtedly other reasons. It is important to find them, and to find out *why* the growth pattern has been so explosive. It is, by the way, a continuing growth cycle; informed observers and industry projections indicate no signs of it reaching a plateau in the near future.

My basic hypothesis is that the factors of ownership and control, and the opportunity for people to build their own system, to design the protocols for managing it themselves, is a major factor in CB's growth. (A most interesting phenomenon is that people are assigning each other to be 'channel-masters' for a specific period of time in order to relay signals from weak stations to weak stations through a strong base station which the 'channel-master' agrees to operate). Whether ownership and control is a perceived or an unconscious motivation is yet to be determined. That the growth pattern has vast implications for the future of telecommunications in the United States seems evident. The use of CB in 'drive-time' is already reputed to be cutting into the revenue of some commercial radio stations. CBers are furnishing each other with information that is more timely and accurate about road conditions than that supplied by the radio stations to which people used to listen. A new symbiosis between CB and such stations may evolve; some broadcasters have already proposed to the Federal Communications Commission that they be allowed to re-transmit CB-originated information about traffic conditions and other events over their own airwaves.

A key question, in terms of the 'why' of this phenomen, is whether or not the developments are healthy for the body politic. CB *may* radically alter telecommunications and mass media as we now know them. Some answers are needed as to whether this represents a mass fad, rooted in fantasy (and there is much fantasy, a great deal of it on a 'macho' level, to be heard, especially in big cities, on the CB bands), before we get to the point that legislative and regulatory policy decisions will have to be made about the future of the medium about rules of access, protocols for its use, and its inter-relationship with other media. Expansion may already be a moot point. The FCC recently allocated CB an additional 17 channels, bringing the total to 40. The implications of this issue alone for commercial broadcasters, and for users of other remote equipment, and for spectrum space (that decreasing national and natural resource) are vast.

The comment that many big city CB communications are on a 'macho' level requires some explanation. There is, at least in New York, a great deal of outright profanity and obscenity. Much of it, judging from the voices, is transmitted by young children who have access to the medium either on their own or through the use of a parent's equipment. A Spanish-language slang, used almost exclusively for CB transmissions, has developed. I am told by those who understand it, that a great deal of the traffic (and this is not only true for Spanish speakers) related to drugs and prostitution. I have myself, in monitoring the medium, detected some obvious drug traffic communications: 'Bluebird (of happiness, presumably; a drug traffic code-word): Base to mobile – what are your coordinates?'; 'On Rego and cruising 'x' to 'y'; 'Base to mobile, cruise North to 'z'? Whether other 'foreign-language' codes have developed in different areas of the country is worth investigation; so is the question whether other codes, different from the normal CB 'ten' code ('10-34' means an emergency, '10-36' is a request for the correct time) are to be found. It would also be useful to determine whether marine and amateur radio operators, the forerunners of CB, have begun to adopt the rather free and easy style of CB operators – the slang words, the slightly Southern dialect (used in all parts of the country, not just in the South) as part of their operating style and procedure.

We need to examine whether CB is a vast outpouring of a genuine expression and need for human contact; or whether the CB user, hiding behind the power to range across space cloaked in anonymity, is an electronic 'Lone Ranger', riding the airways rather than the prairies of old. It may be that CB is an extension of the talk that Americans once exchanged over back fences, but using a technology suitable to the automobile era. It may be that people are adopting electronic and mechanistic communications procedures because they no longer want to travel to communicate or, for that matter, to communicate face-to-face. Advertisements for CB are largely addressed to 'safety' on the road and at home, and purchases may be made on this pretext; but the actuality may be far closer to desires for fantasy.

Or it may be that the truth is a desire to overcome alienation, to have an opportunity to manage one's own communications system, and to coordinate one's own resources to survive in what many people may perceive as an increasingly hostile, bureaucratic, de-personalised, costly, inefficient and high-risk environment. These are strong words. But we are dealing here with a virtually unprecedented popular phenomenon, built around 'safety' and the immediacy of communication, and the timing of its arrival on the scene in a major way (post-Vietnam, post-Watergate, in 'cities in crisis') may well justify their strength. The contention is that the answers to these and other questions have considerable importance not only for the future of telecommunications, but for the way society is evolving.

There are a few other elements which might bear watching. The entrance into the CB market of some of the commerical giants (RCA, Westinghouse, Motorola, General Electric) should be monitored to determine whether people switch, in any significant numbers, to these 'brand-names' from the ones they have been buying (mostly unheard-of electronic companies). Thievery is on the upswing; both individuals and manufacturers have developed some ingenious ways to deal with it; these should be monitored for a comprehensive picture of the phenomenon. And, finally, the CB magazines themselves deserve some scrutiny.

They range from the highly technical to the very 'folksy'. One publication recently printed a major article on why linear amplifiers (which boost power and range) are illegal. It ran an extensive interview with FCC officials about how illegal operators are caught and what is done with them. The same issue also had a copiously illustrated major article that managed to give the specifications, price and place of manufacture of virtually every (illegal) linear amplifier on the market.

That confrontation illustrates a duality of thought, a 'code' within the CB culture. It has been previously noted that other codes exist and more may be evolving. The size of the phenomenon and its explosive growth alone should merit serious attention; it may merit even more if it turns out that there is a sizeable sub-culture, within this country, communicating without care as to whether the kind and quality of the communications are legal or illegal. The implications of that could be monstrous, not only as a function of the size of the community. The question that then needs to be asked is, 'Is CB a harmless phenomenon, or are we here dealing with social pathology on an unprecedented scale?'

INDIVIDUAL CHOICE IN THE USA

Dean Gillette

The telephone is the principal means of individual telecommunications in the United States. Certainly there are other media – first class mail, cables, telegrams, mailgrams, closed circuit television – each as personal as the telephone. Messages are addressed to a specific individual; message content is unique;

and message acceptance is frequently the time of the receiver's choice. In individual communications there is an implicit assumption of privacy.

Mass media communications, in contrast, are not expected to be private. Indeed, for commercial media, lack of privacy is a figure of merit. Thus, newspapers and magazines work to increase circulation, and the statistics of commercial television viewing are critical to programming decisions.

When we think about extensions of choice, however, we ought to recognise that there is a certain amount of individualisation even in the mass media. There is a choice between newspapers, radio and television in most American communities. There may not be much choice, though, in each medium.

Only a few US cities have more than only daily newspaper. Less than one-fifth of the population has access to ten or more TV stations, and one-third must choose from five or fewer. In spite of the number of radio stations—and there are nearly 8,000 in the USA—it is often hard to get classical music on a car radio as one drives across country.

There is a far wider choice in other print media. Thirty thousand new books are published each year in the USA. The 1977 edition of the *Standard Periodical Directory* provides data on over 62,000 periodicals published in the United States and Canada. There are at least a half dozen, for example, that are devoted to the esoteric subject of home computers. There are over forty covering skiing, and others devoted to such skiing alternatives as surf-boarding and skateboarding. Thus, even the mass media offer a wide choice to individuals.

Variety in the media can be individualised through communications. To point out how that can happen, I will first review some facts about individual communications in the United States, touch on convergence of some telecommunications and print media, and finally describe some emerging technologies potentially relevant to personalised television.

Statistics On Personal Communications

The US telephone network completely spans the country. It reaches 95% of the nation's households and virtually every business and government office. And we do talk over the network, with over 200 billion telephone conversations per year. That amounts to nearly a thousand conversations per person per year. People in other nations use the telephone, too. The statistics for Canada and Sweden rival those of the USA. Two to four hundred calls per person per year are recorded for Japan, Denmark, Switzerland, Greece, the United Kingdom, and the Netherlands.

We might compare US telephone statistics with those of the Post Office. In 1976 the volume of US mail was just under 90 billion pieces, of which about 50 billion were first class. This amounts to about three pieces of mail per week per household. In terms of the market share within the communications industry, when we combine first class mail with telephone conversations in the USA, we find that currently the mail service has about 20% of the market.

This division between physically-handled postal service transactions and electronic telecommunications transactions is shifting. Whereas today 20% of the messages are handled by the postal service, the figure in 1945 was closer to 35%. And the trend toward more electrical means for individual communications continues. The US Postal Commission reported that 15% of all Treasury payments are deposited automatically into bank accounts, and the rate of acceptance is growing monthly. The result is, and will continue to be, losses in first class postal volume. Reductions in the number of federal payroll and transfer payment checks are estimated to be 75% by 1985.

Extensions of Telecommunications Technology

Electrical communication is beginning to replace physical handling in the mass media, too. The driving force is the rapid evolution of solid state electronics. Transistor costs have dropped from $1 each in 1973 to under one-tenth of one cent in today's integrated circuit. And we now integrate thousands of transistors and other components into complete functions on a thin slice of silicon a fraction of an inch square. With this technique, we can build a whole digital computer on a chip. They are commonplace; and if we buy them in lots of 10,000, they cost less than $4 each. The same technology has helped reduce the cost of storing modest amounts of information in electronically accessible files. By 'modest amounts', I mean the capacity needed for data bases of text references and abstracts. Let me illustrate the power of these citation indexes.

Through the library at Bell Laboratories today I have access to 75 computerised data bases ranging from

the American Statistical Index through Electrical and Electronic Abstracts and the *New York Times* Information Bank to World Aluminum Abstracts. We do not subscribe to everything available today; the ones I mention are only the ones to which we have arranged remote terminal access. (Need I say that our mode of communication is the switched telephone network?)

For a connect time charge ranging from $15 to $120 per hour and a citation read-out charge ranging from 8 cents to half-a-dollar, depending on the data base, I can search through literature and references to valuable subsets of those 100,000 publications per year—and those of past years. The codification and abstracts offered by the data base give me access to a *far greater range* of pertinent literature than I could afford to buy as an individual or that I have time to scan in the library.

In most instances, I must go to a library of books, periodicals, microfilm or microfiche for the text of a reference; but that is changing. There are now data bases that store the text of a reference as well as a reference to the text. For example, from the *New York Times* Information Bank I can now call up the daily news summary on a remote terminal—that is, an electronic newspaper. Another full text data is available for lawyers. The LEXIS system offers a widening range of legal materials that are accessed by the words or phrases chosen by the searchers. A listing of court decisions containing these words, or portions of the full text containing these words, may be displayed. That is an electronic library, and it is a successful commercial operation. Thus, individual telecommunications have been extended to give personalised access to the print media. The techniques have left behind the laboratory and the demonstration phase, and are being used ever more broadly.

Individual access to pictorial media—illustrations, films and videotapes—is not as thoroughly developed, but there are some beginnings. Bell Canada, for example, is exploring the concept of sending a few minutes of a video programme over a selected cable TV channel on individual request. The transmission is not private, and anyone on the party line can look in. In Japan, wire pairs serving a subscriber's telephone have been modified to carrry video signals by adding solid state electronics. They are used to carry individual television programmes—entertainment, news, or educational programmes—in response to a dialled-up request. In both cases, the home TV set is the display, and requests are made with the telephone.

In both these examples, programme storage is on a physical device: videotapes or discs, microfiche, or a graph or character generator. A play-back unit must be dedicated to each user. This storage and read-out scheme is far less flexible than the computerised data base storage in the text access systems I described—but that might change as research and development of electronic storage technology progresses.

Video transmission technology, too, is being pressed to give low-cost personalised connections. A coaxial cable channel might be dedicated during the subscriber's usage time (perhaps scrambled for privacy). The augmented wire pairs used in Japan are private, but relatively expensive. But there is another emerging technology that might serve personalised video signal needs far better—lightwave communications. In this technology the light from a tiny solid-state laser is modulated with a video signal and guided to the subscriber's set along a hair-thin strand of glass—an optical fibre. Guided lightwave technology is advancing rapidly, and in the next few years there will be demonstrations of optical fibre distribution systems giving personalised video services.

Telecommunications technology is indeed developing broadly, and is extending the options of individuals We have had the personal telephone for a hundred years. The combination of communications and data processing is now giving us a new mode of access to printed media, and we are exploring techniques for wider video access.And, too, Picturephone costs will come down eventually. But that is another story.